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Automotive Daily News

★CARS★ SHOP EQUIPMENT TRUCKS ★★AVIATION★★ PARTS ACCESSORIES ★TIRES★

Vol. 10. No. 1349. Entered as second-class matter Aug. 27, 1925, Post Office, N. Y., N. Y., Under Act of March 3, 1879. NEW YORK, FRIDAY, NOVEMBER 28, 1930 10 Cents. $12 Per Year

U. S. AND EXPORT SALES TOP OUTPUT

SALON WILL OPEN SUNDAY WITH 96 CARS DISPLAYED

Leaders Expect Repetition of Success of Similar Event Staged in Chicago; Many Innovations And Novelties to Be Shown

NEW YORK, Nov. 26.—Ninety custom-built motor cars will be exhibited by the world's leading coach makers and manufacturers of high priced chassis during the twenty-sixth annual Automobile Salon, which opens Sunday evening at the Commodore in New York and will continue all week. The salon will be open from 11 to 11 o'clock each day.

Although restricted to high priced chassis mounting real custom coachwork, this year's salon is as large as ever and is expected to surpass the success of the recent similar display in Chicago.

The exhibits will occupy the entire ballroom floor of the Commodore Hotel as well as the main lobby. Every motor car exhibited is a special creation with distinctive characteristics and individual features.

To a greater degree than ever before, this automobile salon will fulfill a time-honored function of introducing the new designs and fashions in custom coach work.

The chassis to be exhibited at the automobile salon this season include the following: Cadillac, Chrysler Imperial, Cord, Cunningham, Duesenberg, Du Pont, Franklin,

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SEEKS NEW EQUIPMENT LINES FOR EXPORT TRADE

Washington, Nov. 25.—J. Ross Dugan, manufacturers' representative in Australia and New Zealand, is extending his business to include the United Kingdom and is anxious to obtain several lines of garage equipment and service appliances such as portable drills, brake testers, paint spray equipment, valve grinders, and battery chargers.

Manufacturers may communicate with Mr. Dugan in care of W. G. Kaylor, 150 Broadway, New York city, according to a message received by the Department of Commerce.

GOVERNMENT MAKING MOTOR TRUCK SURVEY

Washington, Nov. 26.—A study of motor-truck transportation is being made by the Transportation Division of the Commerce Department in co-operation with the Bureau of Public Roads, for the benefit of that industry. Trucking companies, whose opinion of the value of such a study was sought in advance, expressed themselves, without exception, as favoring it.

Some 3,500 questionnaires were sent out originally to elicit general information on types of trucking firms engaged in interurban or rural hauling, firms doing a strictly local city business being excluded from the study.

Information to be obtained will include the number of motor trucks engaged in the business, capacity and type of trucks, approximate total mileage and total daily mileage; percentage of night hauling; number of employees, seasonal fluctuations and causes; cost accounting system; published freight-rate tariff; total gross receipts for 1929; regular routes, and type of service, whether general freight or general express.

The survey will cover the entire country, and a report covering the results in detail will be compiled when the study is completed.

G. M. EXECUTIVE SEES DEMAND IN MAKING

Toronto, Ont., Nov. 26 (UTPS).—Pyramiding of the replacement demand for automobiles is pointed out by W. C. Herring, assistant general manager in charge of sales, General Motors of Canada, as likely to distinctly benefit motor car sales in 1931. Just back from a coast-to-coast survey of the Canadian automotive field, Mr. Herring said:—

"The fact of the matter is we have been consuming more cars than we have been producing. I do not mean that people have been buying more new cars than were being produced, but that cars have been used up at a greater rate than they were being manufactured. Old cars are getting older and less serviceable without being replaced. The ultimate effect of this program is easy to predict. It means an enlargement of new car sales volume very soon."

Mr. Herring also pointed out that the Canadian people were spending the normal amount on car parts and gasoline. This showed they were using their cars and wearing them out, thus making a large replacement business inevitable. His opinion was it would "have an excellent effect on sales volume in 1931."

H. H. FRANKLIN SEES SIGNS OF UPTURN IN BUSINESS

Syracuse, N. Y., Nov. 26.—Incident to the introduction of the 1931 air-cooled airplane type Franklin and the stocking of the company's dealers and distributors, activities at the Syracuse factory have been resumed on a full-time basis. Nearly 2,000 workers are now employed, which is double the number at work during the low spot of the summer.

President H. H. Franklin in making this announcement said that the presentation of the new model has reawakened buying interest, and states that in his opinion this is an indication of an upturn in business. He cites that in normal times this period of the year is not a buying period, at least in the automobile field, and the fact that there has been such a splendid acceptance of the new models is one of the healthiest signs for a more optimistic outlook for the future.

Orders already placed by dealers, Mr. Franklin said, have created a shortage in the new cars, which will require approximately four weeks of accelerated production to overcome.

NEW CAR DEMAND IN EXCESS OF 10 MONTHS' PRODUCTION

Domestic Registrations and Foreign Shipments 102.2% of Factories' Turnout Thus Far in 1930

NEW YORK, Nov. 26.—Combined retail sales of new passenger cars in the United States and exports therefrom in the first ten months of this year exceeded the actual factory production, according to actual statistics on production for the full period and nine months' figures on sales and exports plus conservative estimates for the tenth month.

Production of passenger cars in ten months' period amounted to 2,592,022, while in the same months domestic retail sales and exports combined totaled 2,650,090, equivalent to 102.2 per cent. of the output.

These figures illustrate in a striking fashion inventory write-offs by motor car manufacturers this year will be exceedingly small in the most part and explains in part the fact that most of the leading companies have been able to maintain their strong cash positions unimpaired. The manufacturers have made a real success of their campaign to hold production to the actual sales level, and when the upturn in business gets under way they will be in a position, along with their dealers, to take full advantage of the new demand for cars without making sacrifices in the way of top-heavy allowances for used cars.

In six of the first ten months of this year retail sales of new cars in the United States and exports exceeded the production for the same months, while in the comparative period of last year in only two of the ten months did sales and exports exceed the output.

In the first ten months of 1929, production amounted to 4,310,954, as against combined sales and exports of 3,969,042. In contrast to the excess in actual sales this year over-production, in the first ten months of 1929, the combined sales and exports amounted to only 92 per cent. of the production.

The greatest excess of production over sales naturally comes in the early months of the year when the manufacturers are building up supplies for the spring buying season.

(Continued on Page 2)

RAYBESTOS EXPANDS SOUTHERN ACTIVITY

New York, Nov. 26.—Raybestos-Manhattan, Inc., has negotiated a contract which will necessitate an immediate expansion of activity at the Charleston, S. C., plant and which will provide employment for several hundred additional men throughout the coming year.

Company's other units also are enjoying increased sales and as a result of economies which have been effected in various directions, production costs have been reduced.

The U. S. Asbestos division is fully booked to the end of the current year with good prospects of being able to maintain relatively high volume operations well into 1931.

The Manhattan Rubber division is showing a steady gain in operations, reflecting a gradual pick-up in business during recent weeks, and both the Bridgeport plant and the Canadian unit have booked a number of important orders within the last ten days.

With the automotive industry showing an upturn in operations for the first time since early summer, and with leaders in the industry beginning to manifest optimism with respect to next year's prospects, Raybestos-Manhattan is in a position to participate in any improvement which may materialize in both the motor industry and the general field of industrial activity.

National Steel to Buy Michigan Steel Plants

DETROIT, Nov. 26.—Directors of National Steel Corporation have voted to purchase all of the property and assets and assume all the liabilities of the Michigan Steel Corporation. A meeting of the stockholders of the Michigan Steel Corporation is being called to authorize the transaction, which has been approved and recommended by the directors.

The details of the consolidation have not been announced, but it is understood that Michigan Steel stockholders will receive cash and securities on a basis of approximately $50 a share, with an option to take not over one-fourth of the consideration in stock of the National Steel Corporation.

Michigan Steel is one of the largest manufacturers of automobile sheets in the Detroit district.

George R. Fink is president of both companies, and it has been the opinion in steel circles for a long time that a merger of the concerns would take place eventually.

National and Michigan Steel have been under the personal direction of Mr. Fink, who is a practical steel manufacturer.

Interests who are large stockholders in Michigan Steel also have substantial holdings in the National company.

National Steel recently completed a steel works at Ecorse, near here, and is now producing sheet bars, billets, etc. The Michigan com-

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Marmon Puts Wholesale Financing Into Effect

INDIANAPOLIS, Ind., Nov. 26.—Carl J. Sherer, vice-president and treasurer of the Marmon Motor Car Company, has announced completion of arrangements with the Commercial Investment Trust Corporation for a wholesale finance plan to be used by Marmon distributors and dealers throughout the country.

The new wholesale finance plan supplements the Marmon-C. I. T. retail plan, which was adopted ten months ago. In addition, all export financing of the Marmon company is handled through the C. I. T. organization, which has offices throughout the world, as well as a closely-knit national organization in this country.

A large portion of the Marmon distributor and dealer organization is using the retail plan, and it is expected that the new floor plan facilities of the C. I. T. likewise will prove popular, Mr. Sherer said, inasmuch as the best features of wholesale financing and service have been incorporated in the new arrangement. The wholesale finance plan becomes effective immediately.

New Car Demand Exceeds Ten Months' Production

(Continued from Page 1)

In 1929, combined sales and exports in January were 73.3 per cent. of the output, 68.3 per cent. in February and 85.9 per cent. in March. In the corresponding months of this year sales and exports ran 86 per cent. of the output in January, 82.5 per cent. in February and 98.9 per cent. in March, indicating that the manufacturers lost no time in putting into effect their determination to hold their factory shipments to the actual demand.

In 1929 sales and exports exceeded the production in April and July, while in October the sales and exports were 99.6 per cent. of the production. In the first ten months of this year, sales and exports combined exceeded the output in April, May, July, August, September and October.

The biggest excess in sales and exports over production in the first ten months of last year came in July, when they were 111.3 per cent., while this year in the same month the domestic deliveries and exports were 121.1 per cent. of the production. This was not the greatest excess this year, however, as in October the sales and exports were 136.6 per cent. of the production.

Retail sales of new cars in the United States alone in the first ten months of this year accounted for 93.5 per cent. of the total production, while in the corresponding period of last year the domestic sales were only 73.8 per cent. of the total output. In three of the ten months this year, domestic sales alone exceeded the output, while in another month they fell only one-tenth of 1 per cent. short of the production. In the first ten months of last year domestic sales exceeded the production in only one month.

Following is the production of passenger cars, as compared with the combined domestic retail sales for the first ten months of 1930:—

	Production	U. S. sales & exports	% Sales & exports of prod.
Jan.	236,145	203,747	86.0
Feb.	296,461	244,981	82.5
March ...	335,720	331,716	98.8
April	374,913	389,480	104.0
May	362,522	370,966	102.2
June	289,245	280,107	96.8
July	222,459	269,420	121.1
Aug.	187,037	219,387	117.1
Sept.	175,311	187,286	106.9
Oct.	112,209	153,000	136.6
Total ..	2,592,022	2,650,090	102.2

Following are similar figures for the corresponding months of 1929:

	Production	U. S. Sales & Exports.	% Sales & Exports of Prod.
January..	345,545	253,483	73.3
February.	404,063	276,147	68.3
March...	511,577	439,477	85.9
April.....	535,878	543,579	101.5
May.....	514,863	495,745	96.3
June.....	451,371	431,618	95.5
July.....	424,944	472,075	111.3
August...	440,780	405,958	92.0
Sept.....	363,471	333,169	91.7
October..	318,462	317,791	99.6
Total ..4,310,954		3,969,042	92.0

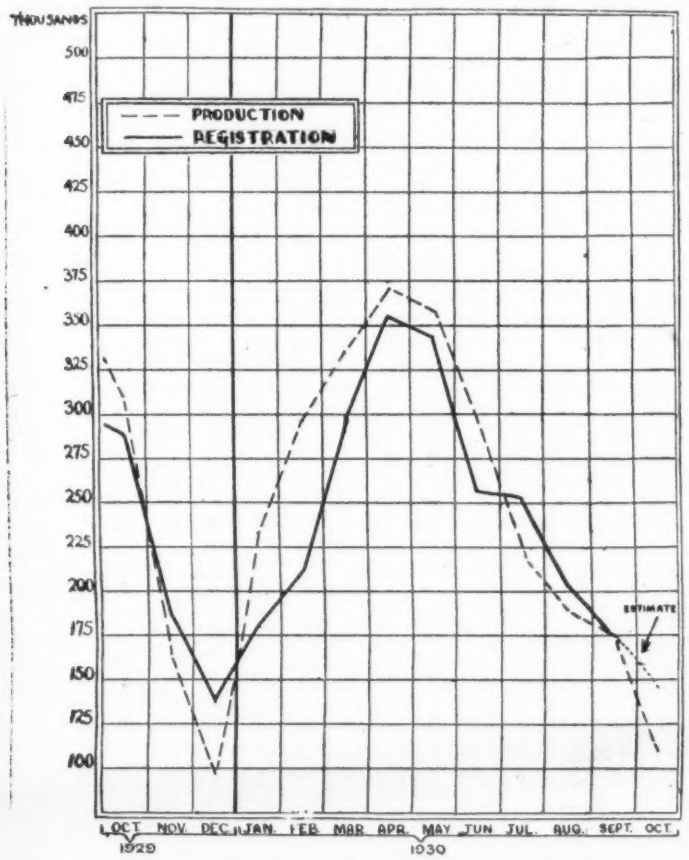
Following are the domestic retail sales of new passenger cars for the first ten months of 1930, as compared with the production in the United States during the same months:—

	Production.	U. S. Registrations.	% Sales of Production.
January	236,145	180,094	76.4
February	296,461	211,645	71.4
March	335,720	298,824	89.0
April	374,913	357,064	95.5
May	362,522	345,041	95.4
June	289,245	260,942	90.0
July	222,459	254,097	114.2
August	187,037	203,737	107.0
Sept'ber	175,311	175,286	99.9
October	112,209	*143,000	127.2
10 mos.	2,592,022	2,429,729	93.5

*Estimated.

Here are the corresponding figures of last year:

	Production.	U. S. Registrations	% Sales of Production.
January	345,545	219,844	63.5
February	404,063	235,337	58.2
March	511,577	378,346	74.0
April	535,878	481,896	90.0
May	514,863	454,153	88.5
June	451,371	386,537	85.6
July	424,944	432,695	105.0
August	440,780	376,933	85.5
September	363,471	304,222	84.0
October	318,462	288,829	90.7
Ten months	4,310,954	3,180,446	73.8



WILSON FOUNDRY COMPANY RECALLS 1,500 EMPLOYEES

Canton, Nov. 26.—Substantial orders from the Hercules Motor Company, this city, have caused the Wilson Foundry and Machine Company, Pontiac, Mich., to recall 1,500 of its employees to work, according to announcement this week. The Hercules company manufactures heavy duty motors, and production at the plant has been large, many technical men in the company's employ having been compelled to work overtime in recent weeks.

PRODUCTION OF CRUDE OIL SHOWS DECREASE

Akron, Nov. 26.—The American Petroleum Institute estimates that the daily average gross crude oil production in the United States for the week ended November 22, 1930, was 2,281,850 barrels, as compared with 2,304,550 barrels for the preceding week, a decrease fo 22,700 barrels.

The daily average production east of California was 1,674,650 barrels, as compared with 1,702,750 barrels, a decrease of 28,100 barrels.

CHRYSLER WINS STURGES SEAT PATENT LITIGATION

Detroit, Nov. 26.—A decree has been entered by the Federal Court in San Francisco holding that automobile seat construction used on Chrysler automobiles did not infringe upon Patent No. 1,151,910 to George S. Sturges.

Suit under the patent was started several years ago by Sturges against the H. O. Harrison Company, Chrysler distributor in San Francisco. The case was defended by attorneys for Chrysler Corporation and was initially heard by a special master. The master held the patent not to be infringed by the Chrysler construction and exceptions to this holding were filed by Sturges. The court has now sustained the master's opinion and entered a decree dismissing the bill of complaint.

DON PRITCHARD JOINS BOHN ALUMINUM & BRASS

Detroit, Nov. 26.—Announcement is made by the Bohn Aluminum & Brass Corporation of Detroit, of the appointment of Don Pritchard to the staff of the Cleveland office. Previously with the old Aluminum Castings Company, out of which has since been formed the United States Aluminum Company, a subsidiary of the Aluminum Company of America, Pritchard went to the Johnson Bronze Company, from which he comes to the Bohn Aluminum & Brass Corporation.

MODINE MFG. CO. PLANS NEW PLANT ADDITION

Racine, Wis., Nov. 26.—Construction of a $75,000 addition to the Modine Manufacturing Company plant in this city will be started soon to provide work for the unemployed, according to T. H. Batton, vice-president. Although there is no immediate cause for expansion, the directors of the company are taking this means of combatting the business depression. The Modine company manufactures automobile and tractor radiators in addition to heating units and stoves.

PRIZE WINNING CORDS TO BE SHOWN IN NEW YORK

New York, Nov. 26.—Cord front-drive models which have won nearly forty major prizes in Europe at the leading exhibitions, such as the Concours d'Elegance of Monte Carlo and the Rallyes of Cannes and Luchon, are being displayed the week of November 30 by the Auburn Sales Company at its showrooms, 1848 Broadway.

GULF REFINING PLANS TERMINAL AT UTICA, N. Y.

Utica, N. Y., Nov. 26.—The Gulf Refining Company has acquired six acres of land on the Barge Canal and R. W. & O. R. R. and will establish a terminal, using its own boats. The Golden White Oil Corporation of New Hartford, N. Y., is the territorial distributor. A fleet of trucks is expected to be placed in operation with the completion of this new terminal.

CRESCENT TOOL CHARGES TRADE NAME INFRINGEMENT

Jamestown, N. Y., Nov. 26.—Montgomery Ward & Co., Chicago mail-order concern, has been ordered to show cause before the Federal Court in Buffalo, on December 8, why a temporary injunction should not be issued, restraining the company from advertising or offering for sale certain tools and wrenches infringing on the "Crescent" trade name of the Crescent Tool Company, Jamestown, N. Y.

BUYS 18 ACF BUSES

Passaic, N. J., Nov. 26.—Emil Bernhardt, official of the Inter-City Transportation Company, was here with twelve drivers from Detroit to bring back the first twelve of a fleet of eighteen new ACF parlor car buses purchased by the transportation company.

SPARKS from DETROIT

Facts and Figures

* * *

Side Lights on Our Industry

* * *

Dodge Has 16th Birthday

Chris Sinsabaugh—Detroit Editor

ALTHOUGH realizing some of the statistics he quotes came from the N. A. C. C.'s annual, "Facts and Figures," yet in his resume of the "Importance of the Automobile Business As It Affects Other Industries," S. A. Miles, general manager of the two national shows, makes us sit up and take notice.

We are so busy, most of us, that we need Mr. Miles' research to realize that this industry of ours "gives employment to one out of every ten persons in gainful occupations, either directly, as in production, selling, financing, servicing and operations of automobiles, or indirectly to persons producing and selling raw materials used in automobile manufacturing or operation."

* * *

IN support of his claim that one out of every ten workers is in the automotive industry, Mr. Miles says: "The automobile industry gives work to 4,700,000 persons, directly or indirectly employed, out of a total of 46,000,000 people classified as gainfully employed in all industry. At an annual wage of $1,200 per individual, this means a total of $5,500,000,000 of purchasing power is made available for the purchase of food, clothing, furniture, houses and articles produced by other industries—enough to build and furnish half a million houses annually, and pay all the expenses of their occupants."

* * *

AS sidelights Mr. Miles tells us that there are 54,000 retail automobile dealers and 4,000 wholesalers; 50,000 storage garages, 101,000 repair shops and service stations, and 80,000 retail supply stores.

"Eliminating duplication, there are in the United States 117,500 retail automotive trade establishment; and 4,000 wholesale establishments supplying parts, accessories, shop and garage equipment, tools and electrical supplies," says Mr. Miles. "There are 975,000 persons engaged by retail and wholesale establishments as proprietors, or in the sales and servicing of automobiles."

After absorbing these convincing facts we can understand why the business world held its breath while this industry of ours was regaining its feet in the recent depression.

* * *

AS of November 14, 1930, the Dodge was sixteen years old. That's ripe old age in the automobile industry, but "dependability," a word coined by Dodge and made famous in its advertising, built into the car by John and Horace Dodge, enabled this product to survive the ills of childhood and establish itself as one of the leaders of the present day. The birthday was fittingly celebrated at the Dodge plant when President K. T. Keller and General Sales Manager A. Van Der Zee watched the 2,513,712th Dodge roll off the line.

That first car is still dependable. It's owned in Nashville, Tenn., and the Adam of all the Dodges has 350,000 miles to its credit. Let's look it over and compare it with its youngest brother, born on the 14th of this month.

* * *

DODGE No. 1 was and is a five-passenger touring car (now we call it phaeton) and sold for $785. The phaeton of today lists at $775, following the recent price reduction of $100. The first Dodge was a four and this is a six. Practically no change has been made in the wheel base—110 inches sixteen years ago and 111 today. Dodge started using an all-steel body and continues the practice, so there is no difference here. The four-cylinder motor was 3⅞x4½ bore and stroke and the newcomer 3⅛x4⅛. The old clutch was a cone type and now they are using a single-plate Borg & Beck. The first gearset had the countershaft idle on direct, but following the standardization of gearshifts some little time back, Dodge shifted to the conventional. "Adam" Dodge's gasoline was fed by pressure from a rear tank.

Dodge, in those days, was proud of the fact that it supplied complete accessory equipment, embracing demountable rims, Willard battery, Jones speedometer, Eisemann magneto, one-man top, rain-vision and ventilating windshield, etc.

Selling Used Cars No Problem for This Dealer

SALESMEN RIDE IN REBUILT CARS

Northwest Motor Co. Raises Commission As Incentive

SELLING 800 used cars and 600 new cars a year is no trick for the Northwest Motor Company of Bethesda, Md., a suburb of Washington, D. C., because the company recognizes that it is primarily in the used car business.

"We reverse the issue," says S. L. Wirgman. "We make all our salesmen ride in used cars, because there is no trouble in selling a new car if you can dispose of the old used cars. If a dealer considers himself in the used car business, he is darn sight better off. You have to move your used car stock anyhow in order to move new cars.

"The average stock at the end of 1930 will be less than forty used cars as against more than 100 the year before. We find that a salesman will sell anything if you give him enough incentive and sufficient revenue for what he sells, and so our plan of payment is 6 per cent. on new and 10 per cent. on used cars.

"The reason for that is to make them think more about the sale of used cars. If they can sell a $350 used car and sell a $600 new car and make $35, they make just as much money selling the cheaper used cars as they can in handling the higher priced new one, and that gives them the same incentive to sell the used car. Business is harder this year than it was last year, yet we have fewer user cars on hand, because we have concentrated our salesman's mind on used cars and he is learning that he can find a $350 man and sell him quicker than he can a $600 man, and yet make just as much money.

"We have sales meetings every morning at 9 o'clock to start them off for the day and we have three major sales meetings for the week to discuss the larger aspects of selling.

"We find that if you advertise used cars at the psychological moment and in the right way you can sell them. We ran a sale during the summer and by good display advertising and hard work we sold fifty-four cars during the campaign, without sacrificing our prices. We used half page and quarter page ads in the newspapers and concentrated on good display space and attractive merchandise.

"We find in line with other dealers that it pays to thoroughly recondition used cars and to make them look like new. The only trouble is that you become so enthusiastic that you probably spend more money than you should. You probably should take some of the lower priced cars down to the dump and throw them away—you would be better off, but we are tempted to get money out of them, even though it is not much.

"We have fourteen salesmen who are constantly following up leads from a file of prospects, which we maintain for their benefit, and they are required to make so many calls daily. The salesmen keep continuously after these prospects, either by letter or by telephone, until a sale is consummated.

GEO. L. BENNING JOINS WENTWORTH & IRWIN, INC.

Portland, Ore., Nov. 26.—George L. Benning has been appointed sales manager of the Nash division of Wentworth & Irwin, Inc., according to an announcement by Charles W. Wentworth, general manager.

C. W. REID ELECTED BY FIRCREST GOLF CLUB

Tacoma, Wash., Nov. 26.—C. W. Reid, president and manager of the C. W. Reid Motor Company, Inc., Tacoma Ford dealer, has been elected second vice-president of the Fircrest Golf Club. He is a member of the board of directors of the club.

Uses Novel Ad Idea

OUT OF A MOTORIST'S SCRAPBOOK
BACK IN 1906 THE PRICE OF A TWO CYLINDER MODEL WAS GREATER THAN THE EIGHT OF TODAY.
THEN: Men paid a BIG price and often got SMALL satisfaction from their investment.
NOW: You pay a SMALL amount of cash and get a BIG VALUE in a USED Car with NEW Car reliability, if you purchase here.
GOOD CARS AS LOW AS $75.00.
HADDON MOTOR CO.
FORD & LINCOLN SALES & SERVICE
Ford
TEL. CAMDEN 6190
HADDON AVE. & WHITE HORSE PIKE
CAMDEN, N.J.

WITH INCREASED car values at lower costs as a basis, the Haddon Motor Company, Ford dealer of Camden, N. J., used a new idea, entitled "Out of a Motorist's Scrapbook." The ad reproduced here shows that back in 1906 the price of a two-cylinder car was greater than the eight of today

GIVES REFUND

The Edwards Motor Company of Milwaukee, Wis., offers motorists having their crankcase oil changed at its garage a 25-cent refund on their oil. This oil is used by the Edwards company in its oil burners, which are used to heat water for the washing of automobiles.

CHICAGO A. T. A. TO HEAR WM. A. BLEES OF OAKLAND

Chicago, Nov. 26.—William A. Blees, vice-president in charge of sales of the Oakland Motor Car Company, will be the speaker at the third of a series of luncheon meetings for Cook county automobile dealers and their department heads, to be held here December 12 at the Hotel Sherman. According to announcement today by the Chicago Automobile Trade Association, sponsor of these gatherings, Mr. Blees will discuss motor car distribution and other subjects of interest to distributors and dealers.

In advance of the meeting it is stated that Mr. Blees will have a special message on the subject of stabilizing the new car business and preparing dealers for the selling campaigns that are rapidly approaching.

MINNESOTA TRUCK ASSN. ELECTS NEW OFFICERS

Minneapolis, Nov. 26 (UTPS).—A safety symposium was the big feature at the fifth annual convention of the Minnesota Truck Operators Association. At the dinner 1,200 men heard T. R. Dahl of Cleveland, Tom Snyder of Indianapolis, and Commissioner C. M. Babcock.

The following officers were elected: President, J. E. McReavy, Minneapolis; vice-presidents, J. D. Ryan of St. Paul, C. W. Knauff of Alexandria, M. A. Murphy of Virginia, A. R. Thoeny of Winona; secretary, T. A. Horrocks, Lumber Exchange, Minneapolis. Fifty-seven directors were named.

WILLIAM C. SEYMOUR BUYS INTEREST IN GARAGE

Des Moines, Ia., Nov. 26.—William C. Seymour, formerly service manager of the Lincoln Heights Motor Company, has joined the C. & M. Garage, 2821 South West 9th St., as partner to C. C. Weatherington. The firm is dealer for American La-France and LaFrance Republic trucks and Linn tractors, and is Auburn and Cord dealer.

Well Written Form Letters Sell Tires for This Duluth Dealer

THE use of form letters in direct-mail advertising can be either a success or failure, depending exclusively upon the product offered, the contents of the letter and how skillfully it is written in order to arouse the prospect's interest enough to have him read the letter through, thereby successfully putting across your sales message.

This, the Paramount Service, Inc., automotive distributor and dealer at 521 East Superior St. in Duluth, has successfullly done in the sales of tires in its retail tire department. This concern has been successful in creating a letter that presents the product it is selling in a very attractive manner, besides selling service successfully, because of the contents and manner in which the letter is written. This letter, which has brought good results in the sales of tires for this concern, is as follows:

"There is a saying, 'Business goes where it is well treated.' We believe that this is true because our business has been growing constantly. However, we are not satisfied, and won't be, until we have your tire business as well.

"We recommend Kelley tires to all our customers because we believe they are the best built tires in America. The Kelly-Springfield Tire Company has always had the reputation of quality leadership in the tire industry, and the more we watch Kelly performance on the cars of our customers, the more we are convinced that these tires are the best Kelly has ever built.

"From experience we know that the average motorist wants not only the best, but he wants to buy it at the lowest price possible. We are even willing to compare our prices with the prices asked for off-brand tires, or with prices quoted by mail-order houses. Regardless of what your need may be, Kelly will give you the most for your money.

"Our service is dependable and conscientious, and starts with the sale of the tire. We urge our customers to bring their cars around at least once a month for free inspection of casings and rims, and to see that the proper air pressure is maintained. So, altogether, we feel that we have the best tire, the lowest price, and the best service in the city. We need your business and will appreciate it and take care of it to your entire satisfaction.

"The next time you have occasion to think about your tires, won't you please think of us?"

How Association Co-operates

Away They Go— Like New!
Your Car Should Be Tuned Up For Winter!
That car of yours, no doubt, saw a lot of service this summer and needs some attention to be in shape for cold weather driving.
Consult your automobile dealer's service department at once. They know what your car needs and have special equipment for expert workmanship.
Your dealer will gladly submit estimates of cost in advance of each job. He has a personal interest in the satisfaction you get from your car and will treat you right.
Here's What Should Be Done:
Clean carbon, replace and reseat valves.
Polish valve stems and clean guides.
Clean and adjust carburetor.
Clean gasoline-lines and screens.
Clean and adjust distributor points and spark plugs.
Adjust fan belt.
Tighten waterpump packing.
Adjust charging rate of generator.
Automotive Division
Sheboygan Association of Commerce
A. Z. GARAGE
EASTERN WISCONSIN MOTOR CO.
HAMACHECK-BLESER CO.
HELMING BROTHERS CO.
HEUER-WILBERT, INC.
W. A. KNAAK MOTOR CO.
KORMAN-SCHMIDT AUTO CO.
LAKE SHORE MOTOR CAR CO.
LOEBEL AUTO CO.
MARTIN & FUCHS GARAGE
NORTH SIDE AUTO CO.
S-V-T NASH COMPANY
SCHILDER-GROTE, INC.
SCHNEIDEWIND MOTOR CO.
SERVICE GARAGE
SHEBOYGAN MOTOR CAR CO.
R. H. THIEMAN CO.

Co-operative newspaper advertising is being engaged in with considerable success by the automotive division of the Sheboygan Association of Commerce in Wisconsin. Seventeen Sheboygan garages and automobile dealers are included in the division, which has done much toward bringing about a better understanding between the automobile man and the public. Space used is not large, but the advertisements are pleasing in appearance and attract attention. They are ordinarily three columns by ten inches in size.

18 HUDSON COUNTY TRUCK FLEETS HAVE RECORD IN CONTEST

Jersey City, N. J., Nov. 26.—Eighteen Hudson county fleets have earned the distinction of having operated fourteen months without a single accident, according to the report for October of the Inter-Fleet Drivers' Safety Contest, conducted by the Hudson County Safety Council. These fleets have operated for a total of 32,790 vehicle hours. R. H. H. Steel Laundry, with a total of 47,475 vehicle hours, leads the group, with Corn Products Refining Company of Edgewater a close second, with 44,129 vehicle hours.

The October record shows that 1,010 vehicles, operated at the rate of 19.63 accidents per 100,000 vehicle hours, which was an improvement over September, when the rate was 22.62. Forty-eight accidents were reported for the month.

The fleets which made the best showing in their respective groups during October are as follows:

Bayonne: Austrian Cleaners and Dyers, General Cable Corporation, Atlas Steel Barrel Corporation, Steinert Brothers.

Hoboken: Janssen Dairy Company.

Jersey City: Brunswick Laundry Company, General Baking Company, Hudson County Stores and Trucking Company, Montgomery Plumbing Supply Company, Standard Oil Company (Jersey City marketing) R. H. H. Steel Laundry.

North Hudson: Corn Products Refining Company, Hackensack Water Company, Reuther Brothers Contracting Company, Standard Oil Company (New Durham marketing).

OAKLAND DEALERS CONVENE AT DALLAS

Dallas, Tex., Nov. 26.—Approximately forty members of the local Oakland organization met with E. C. Bates, zone parts and service manager here, at the showrooms of Walter Cameron, Oakland-Pontiac dealer, to discuss sales and service policies for 1931. The meeting was in charge of Grady Campbell, zone manager, and is the first of a series of such meetings to be held during the next few months.

G. A. CRITTENDEN RETIRES FROM AUTOMOBILE FIELD

Boston, Mass., Nov. 26.—George A. Crittenden has retired from the automotive industry and joined Russell, Fairfield & Ellis in the insurance business.

CASTLE MOTOR CO., IN NEW SERVICE GARAGE

New Castle, Pa., Nov. 26.—The Castle Motor Company, distributor of Ford automobiles and accessories in this district, is occupying its new sales and service garage at 470 East Washington St.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION,
350 Hudson St., New York, N. Y.
O. J. Elder, President. H. A. Tarantous, Vice-President. Alexander Johnston, Secretary.

Entered as second-class matter August 27, 1925, at the post office at New York, N. Y., under the Act of March 3, 1879.

Circulation—Net paid Average over 10,000 daily guaranteed.
Member A. B. C.

FRIDAY, NOVEMBER 28, 1930

ADVERTISING AND BUSINESS HEADQUARTERS

2716 Graybar Bldg., New York, N. Y. Telephone LEXington 6388
Harry A. Tarantous, Business Manager. J. Edward Schipper, Eastern Manager.

George M. Slocum, Manager Detroit Bureau, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Central 5936; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 2716 Graybar Building, New York City.

EDITORIAL DEPARTMENT

350 Hudson St., New York, N. Y. Telephone CAN al 1000
Alexander Johnston, Editor. William C. Callahan, News Editor.
Detroit Bureau—Chris Sinsabaugh, Editor, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500. Contributing Editor, John C. Wetmore. A. Benson Carleton, Technical Editor.

Mail subscriptions to CIRCULATION DEPARTMENT—C. H. Wilson, Manager.

1926 Broadway, New York, N. Y. Telephone TRAfalgar 4500
Subscription Rates—One year, $12.00; two years, $20.00, for United States and Canada.
To Foreign Countries—One year, $15.00; two years, $26.00. Single copies, 10 cents.

The Real Meaning

IN considerable degree the business illness through which we have been passing is due to a recession that is world-wide and not merely national. Most people realize this; at any rate it has been called to their attention frequently enough by economists. Credit in foreign countries has been generally difficult during the present year, and the threat presented by the Hawley-Smoot tariff bill helped to confuse the financial situation in many foreign countries.

Under analysis the revolutionary troubles in certain South American countries were brought to a head by the financial difficulties under which the states struggled. Political parties are strong only as long as their countries are prosperous. We have had a proof of this condition in our own land not so long since. Fortunately, our sense of humor, or something else, does not lead us readily into revolutionary methods of changing parties.

However, what we started to call attention to was the effect on our home industries of financial stringency in foreign countries. During the first eight months of 1929 our automotive vehicle manufacturers shipped into the South American markets a total of 39,721 units. During the same period of 1930 our export of complete vehicles into South America was 8,806.

Now, construction of the 31,000 motor vehicles that we did not build this year for the South American markets would have supplied employment and wages for a considerable segment of our great army of unemployed. While the drop in exports to other countries will not be as drastic as that in the South American field, nevertheless the world-wide recession has reduced all foreign shipments. The effect of this wholesale export curtailment is one of the serious factors affecting employment and in its ultimate effect reaching into every branch and division of the industry.

The Model Stock

EDWARD A. FILENE of Boston is not only one of the foremost merchandisers of this country, but he has the unusual knack of being able to explain enlighteningly the principles which must govern successful merchandising. Speaking at the Retail Clinic held in Cleveland recently, Mr. Filene discussed business recessions in general, the present one in particular and advanced his ideas of the way to prevent them. While Mr. Filene spoke from the point of view of the department store, many of his suggestions concern fundamentals which apply with equal force to any retail merchant's business.

"No little share of the blame for the present depression," said Mr. Filene, "may be laid at the door of the weak, faulty, traditional methods of merchandising that prevail in most retail businesses of our country today. Leaders of production are generally awake and act upon scientific principles, while distributors are still very much asleep and do not realize that we are living in an age of science, in which scientific fact-finding principles must be applied."

Mr. Filene then proceeded to discuss the question of retail stock in its broad aspects of successful planning. "A model stock is a whole stock of bargains, in the sense that a value better than ordinary is a bargain. In each class of goods it offers a complete stock at three standardized prices. This stock sells more goods, more profitably than any incomplete, less carefully selected stock even twice or three times as large."

There are many fields of automotive merchandising where the principles here laid down can be effectively applied. Even in the used car department, the dealer who makes his stock a stock of bargains, in the sense of "a value better than ordinary" in every case, is on the way to solve that perennial used car problem. The fact that many dealers are managing to do exactly this, is proof that Mr. Filene's fundamental of good retail merchandising is basically sound.

NATIONAL-MICHIGAN STEEL MERGER VOTED

(Continued from Page 1)

pany consumes about 180,000 tons of sheet bars a year, and this business will naturally be valuable for the National company, making the merger a logical one.

As of December 31 last National Steel's total assets amounted to $120,828,758 and Michigan's to $6,638,019, making a total of approximately $127,500,000. However, since that time Michigan's assets have been increased through offer of capital stock to stockholders last August in ratio of one new share for each ten held at $43. Total number of shares of Michigan outstanding September 30 last was thus increased to 240,260, against 216,520 December 31, 1929. As of the latter date there were 2,072,000 shares of no-par capital stock of National Steel outstanding.

PLANS $300,000 GARAGE

Jersey City, N. J., Nov. 26.—Motoramp Garages of New Jersey, Inc., James V. Coyle, president, has purchased a vacant plot at the southwest corner of Bergen Avenue and Bergen Square, Jersey City, on which will be erected an eight-story garage, to cost $300,000. The plot has a frontage of 31 feet on the avenue, a depth of 156 feet, and includes also an inside plot 129 by 190 feet.

COMING EVENTS

NOVEMBER

30-Dec. 6.—New York city. Automobile Salon at Commodore Hotel.

DECEMBER

6-17—Brussels, Belgium. Automobile Exhibition.

JANUARY

3-10—New York. National Automobile Show.
5—New York. Rubber Manufacturers' Association convention.
6—New York. National Automobile Chamber of Commerce annual show banquet at Hotel Commodore.
5—New York City. National Automobile Dealers' Association convention.
7-10—East Orange, N. J. Automobile Show of the Oranges and Maplewood.
8—New York City. Society of Automotive Engineers' annual dinner.
10-16—St. Louis, Mo. National Roadbuilders' show and convention.
10-17—Buffalo, N. Y. Automobile Show.
10-17—Milwaukee, Wis. Automobile Show.
10-17—Philadelphia. Automobile Trade Association annual show.
10-17—Newark, N. J. Automobile Show.
11-17—Cincinnati, O. Automobile Show.
13-17—Evansville, Ind. Automobile Show.
17-24—Boston. Automobile Show.
17-24—Detroit, Mich. Annual Show. Convention Hall.
17-24—Hartford, Conn. Automobile Show. at state armory.
17-24—Montreal, Can. National Motor Show of Eastern Canada at Stadium.
17-24—Baltimore, Md. Automobile Show.
17-24—Pittsburgh, Pa. Automobile Show.
19-22—Chicago. National Wheel and Rim Association convention at Edgewater Beach Hotel.
19-23—Detroit, Mich. Society of Automotive Engineers' annual meeting.
19-24—Louisville, Ky. Automobile Show.
19-24—Rochester, N. Y. Automobile Show.
24-31—Chicago, Ill. National Automobile Show.
24-31—Cleveland. Automobile Show.
24-31—Washington, D. C. Automobile Show.
26-27—Chicago. National Automobile Dealers' Association convention.
26-31—Springfield, Mass. Automobile Show.
26-31—Syracuse, N. Y. Automobile Show at Armory.
31-Feb. 7—San Francisco. Automobile Show.

FEBRUARY

1- 7—Minneapolis, Minn. Automobile Show.
1- 7—St. Paul, Minn. Northwest Automobile Show, jointly sponsored by St. Paul and Minneapolis at the Minnesota State Fair Grounds.
2- 7—Scranton, Pa. Automobile Show.
2- 7—St. Louis. Automobile Show.
3—Minneapolis. Auto Trade Association convention.
7-14—Los Angeles. Automobile Salon.
7-14—Kansas City. Automobile Show.
9-14—St. Petersburg, Fla. Automobile Show at Winter Garden.
9-14—Denver, Colo. Automobile Show.
11-13—Chicago, Ill. American Society of Mechanical Engineers' fuel meeting.
14-19—Indianapolis. Automobile Show at State Fairground.
14-21—Providence, R. I. Automobile Show.
14-21—Omaha, Neb. Automobile Show.
16-20—San Francisco. Society for Steel Treating National Western Metal and Machinery Exposition.
21-28—San Francisco. Automobile Salon.
21-28—Quebec, Canada. Automobile Show.
23-28—Des Moines, Ia. Automobile Show at Coliseum.
24-March 1—Seattle, Wash. Automobile Show at Civic Auditorium.
25-March 2.—Camden, N. J. Automobile Show.

MARCH

6-15—Geneva, Switzerland. Eighth Swiss International Automobile Show.
7-14—Brooklyn, N. Y. Automobile Show.

MAY

4- 9—Charlotte, N. C. Good Roads Convention.
9-Aug. 9—Berlin, Germany. International Garage Exposition.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Contemporary Comment

WHILE Christmas gift buying this year will be as generally practiced as ever in these United States, merchandising authorities are agreed that the character of the buying is going to be considerably affected by the recent status of business.

More than ever before, Christmas gifts must have definite utility value. The indiscriminate purchase of extravagantly ornate articles of doubtful use is not to be anticipated. But the spirit of Christmas, the admirable custom of exchanging gifts among relatives and friends, is too deep seated in the American consciousness to be obviated entirely, regardless of the times.—**Bausch & Lomb Magazine.**

* * *

FEW, very few, business men think they are speculators. Better than nine out of ten do, but not in the form that they understand the word speculation.

To the greatest percentage, speculation means gambling in stocks. And heaven forbid that they speculate in stocks. Yet, tell the average dealer that he is constantly speculating in such ways that his losses will do more harm than money losses and he'll look amazed. Yet few dealers, and these are few, are not always speculating with their most treasured business possession: Their customers' confidence.

Let's take a specific case. Not one car owner in a thousand can tell good brake lining from bad by examination. Not one in a hundred can call any one of the best brands of brake lining by name. Some know a few names because they have been advertised, but few know quality.

A dealer will build up a good reputation on brake lining jobs due to good work and material. Then, overnight, he'll place his reputation at stake by trying to make an extra 10 per cent. by using some cheap lining.

The customer may never find out, but the chances are that he will when he has his brakes relined again—if he goes to a dealer that values his reputation. First the customer will ask the price. He'll be told. If it's the same he'll have the work done. When the brake bands are taken down and the cheap lining examined, do you think the dealer will hesitate to tell the customer how he was gypped? Honestly, do you? Would you fail to call the customers' attention to it?

This is just one instance of speculation. You either do or don't speculate. You are either constantly looking for "something just as good for less," or you buy the best. And, like the opium habit, once you start speculating with your lines of merchandise there is no stopping. Few escape its evils, which always show the same result: complete destruction and annihilation.

Don't speculate. If you have good lines to sell stick to them. Always remember—"The cheaper it is—the cheaper it is."—**Releefacts, as reprinted in The India Owl.**

Cook County Truck Sales In October Register Gain

CHICAGO. Nov. 26.—New truck registrations in Cook county for October were forty-four in excess of September, but 209 less than for the same month of 1929. The total for last month was 487, while 696 were registered in October last year and 443 in September, 1930.

Ford registered 243 for last month, which compared with 258 in October, 1929, and 228 in September this year. This was the best month for Ford since July.

Chevrolet had 56, as against 71, in October last year and 62 in September, 1930. Chevrolet and Ford accounted for two-thirds of the total registrations.

Dodge registered 47 for the month, leading October a year ago by three cars.

International sold 25, as against 49 last year, and Mack had 13, as against only 8 a year ago. Walker Vehicle also showed a gain over October a year ago with 12 against 3.

The registrations last month with comparative figures for October last year and September this year follow:—

	Oct. 30	Oct. 29	Sept. 30
Ford	243	258	228
Chevrolet	56	71	108
Dodge	47	44	12
International	25	49	30
Mack	13	8	9
Walker Vehicle	12	3	2
Diamond T	10	41	25
GMC	8	14	4
Reo	6	21	5
Chicago	5	7	6
Autocar	4	5	12
White	4	15	19
Available	3	12	4
Hendrickson	3	0	1
Federal	2	5	5
Divco	2	24	0
Sterling	2	4	5
Stewart	2	1	1
Fargo	1	5	3
Indiana	1	1	0
Nelson LeMoon	1	10	1
Paige	1	0	0
Rieland & Bree	1	0	0
Republic	1	0	1
Willys	1	0	0
Willys-Knight	1	2	0
Miscellaneous	32	..	..

CENTRAL OHIO STEEL APPROVES PROPOSED MERGER WITH HAYES

Pittsburgh, Nov. 26.—Sufficient stock of the Central Ohio Steel Products Company has been deposited to make the sale of the organization to Hayes Body Corporation possible. Directors of Hayes Body will take final action on plan within a few days.

Stockholders of Central Ohio are offered 6 per cent. convertible debenture bonds of Hayes Body on a basis of $26.50 a share for Central Ohio. Hayes Body will issue $1,000,000 of the bonds dated November 1, 1930, maturing in 10 years and convertible into Hayes common stock on a basis of one share for each $15 principal amount of bonds. Bonds will be callable at 105 to November 1, 1935, and at a premium of one point less in each succeeding year. The corporate identity of Central Ohio will be retained and its stock will be deposited with a trustee as collateral security for the bonds.

The consolidation will solve the problem of expansion now facing Central Ohio. The company makes steel grave vaults and also dump bodies for motor trucks. Large orders for truck bodies recently secured make plant expansion necessary. Hayes is understood to have an idle plant which could be converted to the production of these bodies at a moderate outlay of capital.

Central Ohio has 32,000 shares of common stock outstanding and $220,000 of funded debt. Hayes Body has 317,248 shares of stock and no funded debt.

OTHER FINANCIAL NEWS

MIDLAND STEEL

E. J. Kulas, president of Midland Steel Products Company, states that on October 31 Midland had cash and government securities amounting to $7,441,649. This, Mr. Kulas pointed out, is equal to $76.77 a share on 96,930 shares of the 8 per cent. cumulative preferred stock, which is the senior obligation.

Current assets as of the same date amounted to $89.75 a share on the 8 per cent. preferred and working capital equaled $84.28 a share.

During the first ten months, Mr. Kulas said, Midland earned its preferred dividend for the period 1.91 times.

Recently, Midland renewed several important contracts for automobile frames and four-wheel brakes covering 1931 delivery and in addition booked a number of new orders. Improvement in the automobile industry is expected to be reflected promptly in earnings and operations of the company. Preparation has practically been completed for commercial production of automobile airbrakes acquired under the Christensen airbrake patents.

CHECKER CAB

Checker Cab Manufacturing Corporation reports for the quarter ended September 30, 1930, net profit of $87,024 after charges and taxes, equivalent to 23 cents a share on 375,000 no-par shares of stock. This compares with $105,020, or 28 cents a share, in preceding quarter, and $817,647, or $2.18 a share, in third quarter of previous year.

Net profit for the first nine months of 1930 totaled $587,098 after above charges, equal to $1.56 a share, comparing with $3,538,314, or $9.43 a share, in first nine months of 1929.

During this period production and sales were materially decreased in preparation for marketing new mode of taxicab.

PARMELEE COMPANY

Parmelee Transportation Company and subsidiaries report for nine months ended September 30, 1930, profit of $70,564 after expenses and interest, but before extraordinary non-recurring losses amounting to $514,324, which were charged directly to surplus account. Capital stock consists of $1,000,000 (par $100) 6 per cent. preferred and 299,118 no-par shares of common stock.

Net profit for third quarter after all charges was $1,936.

Parmelee Transportation Company has declared the regular monthly dividend of 5 cents, payable December 10 to stock of record November 29.

FORM NEW BUS CONCERN

Somerville, N. J., Nov. 26.—The Golden Arrow Lines, Inc., has been formed by E. G. Langhorne, T. C. Langhorne and John Langhorne, Somerville.

WISCONSIN AXLES
—known for trouble-free service; and for efficiency in converting engine power into performance.
WISCONSIN AXLE CO.
OSHKOSH WISCONSIN

Cumulative New Commercial Car Registration Statistics, October, 1930

Returns today: Arizona, Michigan, Montana, Nebraska, New Jersey and Washington

Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies.

Commercial Car Registrations do not include buses.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Arizona			27		2				88	2	8								1	3		2			1	134	Arizona
Arkansas			106		13			1	145	4	22				1		1					1	4		1	299	Arkansas
Conn.	4	12	108	2	45	1		5	256	22	23	25			9			3	8	4	1	9			6	543	Conn.
Delaware	1		14		2				52	4	2						1					1			1	78	Delaware
Florida		7	145		12			5	503	4	19	5			2							5	1			708	Florida
Idaho	3		72		4				168	2	8	1	1		4					2						265	Idaho
Illinois	4	2	407	18	94		3	3	669	15	93	16	1	1	10	1		2	2		4	5	4	1	81	1436	Illinois
Michigan	1	4	187		41	1	1	11	780	17	28	1		2	11	8	3			9	2	4	1		10	1122	Michigan
Minnesota		1	267	11	43	2	1	6	492	9	95	8		1	14		4			5	4	13	3	2	5	986	Minn.
Missouri		4	244	3	45	3	3	4	421	11	44	6		2	5		1			3	3	6	4		10	822	Missouri
Montana			52		5		2		99	3	39				2	1				1			1	1	2	208	Montana
Nebraska			169	2	32		2		346	5	50	2	2		3					3	2	1	8		5	632	Nebraska
N. Hamp.			37	1	9		1		119	3	6	3	1		6		1		4	1					1	193	N. Hamp.
New Jersey	13	8	214	10	85	1	2	10	672	30	63	23	2	1	20	4	2	6	8	4	3	22			30	1233	N. Jersey
N. Carolina			222		24				422	9	20				3					1		6	4		4	715	N. Caro.
N. Dakota			38		5		2		67	1	45			1	1		1			1		1	2			165	Nor. Dak.
Ohio	7	6	324	3	75	2	2	11	832	30	80	16	2	2	9	3		1	8	17	16	17	7	11	15	1496	Ohio
Oregon			91		11		2	2	193	5	11	2			4	4	2					5	3		26	361	Oregon
Rh. Island	3	1	32		14		2	2	108	6	5	7			4		1	2		1	1	3	3			195	R. Island
S. Carolina			92		7	1		2	215	6	6	8								3		1			4	345	S. Car.
S. Dakota			55	2	7				87	3	39				2					2	1		1			199	S. Dak.
Utah			41		5				110	5	3	1	1		3		1								2	172	Utah
Virginia	4	7	207		24	2	3	2	316	15	31	9		1	4	3				1	2	3	3		28	665	Virginia
Wash'ton			105		35	1	2	1	276	8	14	1			6		1	1		4		12	1		12	480	Wash.
W. Virginia		4	106	1	32		1	1	166	13	19				7	1			1	1	1	1	1		6	362	West Va.
Wisconsin			270	8	41		1		401	23	49	2		1	5		4		1	3	4	3	5		4	825	Wis.
Dist. of Col.	5		30	3	2				168	4	3	2			1							3			2	223	D. of Col.
Totals	45	56	3662	64	714	14	30	66	8171	259	825	138	10	12	136	25	23	15	33	69	44	124	56	15	256	14862	Totals
Ariz., 1929			65		24	2	1		110	6	7	1			3		1	1	1	1	2	3		2		230	Ariz., '29
Ark., 1929		1	502		38		3	1	586	15	62	1			13		1		1	2	20	10		2		1258	Ark., '29
Conn., '29	9	16	208	9	80	8	10	3	239	36	34	49		1	44			1	11	1	12	24		3	20	818	Conn., '29
Del., 1929		1	32		2				46	5	7				1						1	1				96	Del., 1929
Fla., 1929		3	149		15	1		1	206	3	21	1			7						1	2				410	Fla., 1929
Idaho, '29			103		14	1	3		84	8	21				5	4	6				2	2			2	255	Idaho, '29
Ill., 1929	6	3	517	52	100		14	9	719	27	123	10			70			4	2		36	18			160	1870	Ill., 1929
Mich., '29	1	2	611	8	72	6	14	23	1127	58	74	2		1	62	3	3			2	19	9		2	16	2115	Mich., '29
Minn., '29			351	1	39	2	19	5	516	15	108	13		4	23		1				27	2			13	1139	Minn., '29
Mo., 1929		5	401	15	52	6	6	9	507	28	50	16			11	2	3	2		3	18	2		1	10	1147	Mo., 1929
Mont., '29			100		10		2	2	145	6	32				1					1	4	1				304	Mont., '29
Neb., 1929		4	253	1	23		3	1	300	16	67	1			7		2				20	3			8	709	Neb., 1929
N. H., 1929	1	6	62		9		1	1	94	9	12	2			9				2	1	7	1		1	2	220	N. H., 1929
N. J., 1929	12	19	501	8	144		13	16	723	63	33	50		2	59	1	1	16	6	7	16	37		5	47	1779	N. J., 1929
N. C., '29	4	5	445	1	66	1	5		413	8	18	5			8	4	1		3		6	3			10	1006	N. C., 1929
N. Dak., '29			146	1	8		3	1	130	6	68				1		1				15			1		381	N. D., '29
Ohio, 1929	11	8	715	7	130	8	11	12	1098	69	163	15		7	56	2	1	1	13	4	66	71		10	47	2525	Ohio, '29
Ore., 1929			151		25	2	2	10	246	16	16	2			5	1	7	10		5	2	4			53	557	Ore., '29
R. I., 1929	4	2	60	3	22	2	4	5	127	22	7	10			26		2	1	6			4			3	310	R. I., '29
S. C., 1929			224		14		1	1	177	4	16	1			1	1	1				1	3				445	S. C., '29
S. D., 1929			119	1	13		1	2	109	1	63				8		1			1	8					327	S. D., '29
Utah, 1929			77		10		1		150	4	13	3			5		5			1	1	1		1	1	273	Utah, '29
Va., 1929	2	4	177		37	3	2	2	180	14	35	3		1	13	2			4	1	5	8		2	10	505	Va., 1929
Wash., 1929			162		31		6	2	297	24	22	4			14		8			2	10	11		3	20	616	Wash., '29
W. V., '29		2	183	1	28		3	1	155	7	34				11	1	2		7		11	2				448	W. V., '29
Wis., 1929	1		425	18	64	1	9	8	630	32	102			5	18		1	7	5	2	25	12			21	1386	Wis., '29
Dist. of Col.	2	1	54	6	12				138	20	8	4			4			3	1	1	3	2			2	261	D. C., '29
Totals	53	82	6793	132	1082	43	137	115	9252	522	1216	193	*	21	485	21	48	46	62	35	336	236	*	33	445	21390	Totals

*Not in production at that time.

Production--Engineering--Factory-

Observations on Testing of Lubricants

By E. WOOLER
Chief Engineer, Timken Roller Bearing Company, Canton, O.

The following paper, read at a recent meeting of the Cleveland section, Society of Automotive Engineers, Cleveland, O., is presented in part herewith. This paper will appear serially in the Automotive Daily News.

THE lubricants which we are to discuss in this paper are those generally used in transmissions and axles of automobiles. The increase in power and speed of automobiles within the past few years has made the problem of lubrication one of major importance in the engineering of all types of vehicles.

The lubrication of the motor has received considerable attention, but that of the transmission and axles leaves much to be desired, in many instances.

The increase in power and speed has resulted in increased loads on gear teeth, which breaks down the oil film and scores the gears when using straight mineral oil lubricants such as 600W.

In order to carry greater loads than the straight mineral oil would carry, lubricants were compounded with a view to obtaining quieter gears and increasing the load-carrying capacity.

Unfortunately, among the lubricants compounded were those having fillers and other ingredients which are abrasive agents, such as talc, mica, asbestos, etc., and which not only lapped the gears themselves, but also the bearings supporting them.

The introduction of hypoid gears brought the problem of lubrication to the fore-front as it was impossible to run these gears without trouble from scuffing with straight mineral oil of suitable viscosity.

It was for these reasons that the Timken Roller Bearing Company commenced testing for the abrasive qualities of oils add also for the carrying capacity, the two problems being inseparable, as will be shown later.

The first attempt at determing the qualities of oil was to subject the oil to a four-square test which is an appartus described in the paper read before this section of the society by the speaker November 19, 1928, on "Laboratory Testing of Automobile Rear Axles." This test was a very good one, but took rather a long time to run, and necessitated four complete automobile rear axles for each test so that other means were looked for which would be quicker, cheaper and more comparative in their results. It was soon realized that the usual physical tests in use did not give the answer to the effect of lubricants on gears. The suitability of an oil was usually determined from its physical constants, and the results obtained by service records and road tests.

Two machines were built, one to give scuffing properties, and the other to give the abrasive properties of oils. From the anti-friction bearing standpoint, the abrasive testing is the more important; from this standpoint lubricants of mineral origin and free from fillers and metallic substances were quite satisfactory, and no trouble was experienced from abrasion. Many gears, however, demand a lubricant which will withstand much higher loads than the straight mineral oils will carry without scuffing.

It is well known that in recent years, speeds and the loading of gears have increased to such an extent that high tooth loads are quite common in many axles, theoretical loads as high as 1.800 pounds per inch of tooth length in high gear being fairly common. This has been caused by a desire to reduce the cost of the axles and transmission assembly, and, incidentally, to reduce the unsprung weight of the rear axle. In other words, to use too small an axle under a car.

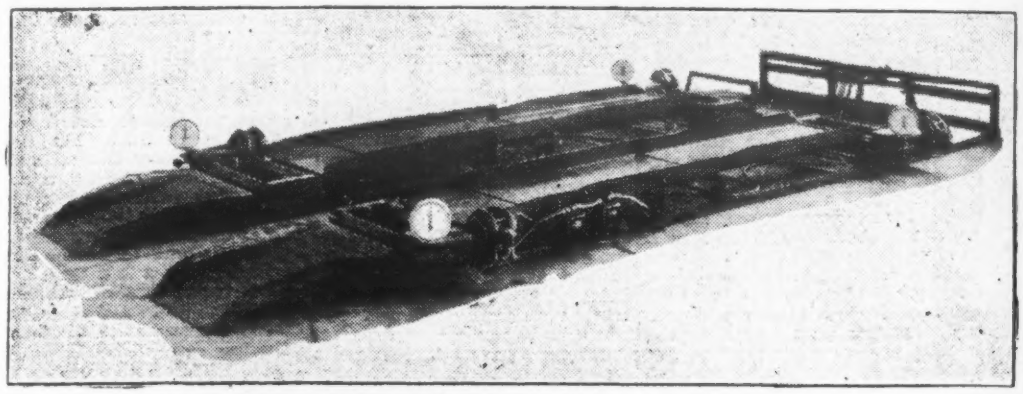
(To Be Continued)

ACETYLENE ASSN. ISSUES CONVENTION PROCEEDINGS

The International Acetylene Association, Chicago, Ill., recently issued the proceedings of its thirtieth convention, which was held in Chicago November, 1929. The volume is bound in cloth.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

New Bendix-Cowdrey Brake Tester



BENDIX-COWDREY medium-duty, all-purpose brake tester

A new medium-duty, all-purpose Cowdrey brake tester has just been brought out by the Bendix-Cowdrey Brake Tester, Inc., South Bend, Ind., a subsidiary of the Bendix Aviation Corporation.

This new type of brake tester is of the drive-on-back-off type and is self-adjusting for wheel bases ranging from 100 inches to 228 inches, and the manufacturers claim that it will handle the testing of 99 per cent. of all vehicles on the highways,

CUMULATIVE NEW PASSENGER CAR

States	Auburn	Austin	Buick	Cadillac	Chevrolet	Chrysler	Cord	De Soto	Dodge	Durant	Essex	Ford	Franklin	Gardner	Graham	Hudson	Hupmobile	Jordan	La Salle	Lincoln
Arizona		3	30	1	100	4		9	7	5	11	196			8	8	1		1	1
Arkansas	3	4	37	5	352	37	1	8	51	8	11	577			5	5			4	
Conn'ticut	16	9	231	53	424	97	4	86	101	13	95	799	24		39	41	30	3	28	8
Delaware	2	2	25	5	73	10		3	2	7	9	145	1			4	3		5	2
Florida	11	29	125	15	614	55	3	12	21	1	43	921	9		37	15	13		6	3
Idaho		4	21		159	16		12	15	15	9	214			8	8	1			2
Illinois	47	18	442	100	1521	189	25	125	200	24	178	2677	60	6	110	52	52	3	75	45
Maryland	8	1	147	15	565	67		14	46	15	43	768	8		19	12	14		12	4
Michigan	7	19	398	100	899	93	3	42	101	24	125	2188			61	44	16	2	32	5
Minnesota	2	5	170	13	1030	108	2	22	85	20	30	1186	2	4	37	20	37		7	5
Missouri	8	9	190	26	914	51		33	97	17	77	1375	10	2	37	21	27		17	3
Montana	1	2	30		224	21		8	13	5	12	282	2		4	7	6		1	2
Nebraska	6	8	119	5	779	53		8	70	7	16	1132	5	1	18	9	14		1	3
N. Hamp.	5	2	59	4	120	23		7	8	4	13	252	2		3	8	5		3	1
New Jersey	36	22	611	94	969	243	1	45	129	26	129	2064	22	1	53	78	57	3	65	20
N. Ca'lina	5	9	126	12	918	65	1	14	79	1	53	1357			8	15	5		8	5
N. Dakota		4	19		214	11		3	10	8	6	251			5	4				
Ohio	30	25	483	90	1423	165	4	109	182	51	198	2741	45	4	93	69	54	4	38	22
Oregon	1	3	97	7	298	28		17	21	36	46	416	6		27	13	4		4	3
Penna.	31	47	909	109	2072	422	6	171	329	95	220	3678	43	6	216	115	129	2	93	39
Rh. Island	2	7	61	17	137	35		25	31	14	21	315	5		12	10	10		11	4
S. Ca'lina		10	65	1	597	32	1	14	30		16	691			2	10	7		3	1
S. Dakota		2	48	2	307	24		3	20	16	11	342	1		6	5	1			1
Utah	2	1	38	1	121	12		6	11	25	15	164	4		6	7	3		3	1
Virginia	6	6	110	6	696	55		33	70	14	46	1110	4		29	25	9		4	3
Wash.	4	15	143	4	357	49	2	36	29	39	83	670	6		14	10	33		3	3
W. Va.	5	2	66	7	402	43	2	16	59	6	33	559	3		30	19	8		4	1
Wisconsin	11	11	233	17	880	64	1	32	68	24	80	1073	4		36	39	18		16	2
Dis. of Col.	6	3	86	16	194	23	1	18	32	1	13	621	5		20	9	14		6	7
Total	255	282	5119	725	17359	2095	57	931	1917	521	1642	28764	271	24	943	682	571	17	450	196
Ariz., '29	3		105	5	394	17	3	38	26	33	23	443	1		34	9	27		5	
Ark., '29	4		112	6	1599	86		62	119	30	62	2694	4	1	25	17	23		12	5
Conn., '29	32		353	72	617	152	2	133	154	18	213	800	41	2	71	80	127	1	58	8
Del., '29	3		54	8	112	4	2	2	3	14	14	215	1		1	4	7		11	3
Fla., '29	4		127	8	601	55	4	27	50	4	65	1180	3		39	26	28		15	4
Idaho, '29	1		53		373	18		27	41	57	28	550	1		19	12	6		2	
Ill., '29	77		979	120	2424	403	46	247	385	105	521	4904	38	11	238	298	340	6	212	53
Md., '29	15		232	15	808	94	2	47	65	31	135	1121	10		60	52	106	6	22	14
Mich., '29	17		890	135	2450	209	15	157	188	135	508	4429	6	3	178	249	249	3	131	19
Minn., '29	17		285	18	1335	124	9	53	101	96	177	2267	5	3	95	52	109		36	10
Missouri,29	20		324	23	1445	91	6	61	145	73	267	2321	17	14	88	70	92	1	44	12
Mont., 1929	3		42	3	215	22	2	13	38	21	30	324	7		21	10	10		2	
Neb., 1929	4		207	4	1308	69	2	35	96	46	61	2053	2	4	40	21	42		4	2
N. H., '29	8		75	5	214	42		29	29	32	50	261	10		16	15	14	1	6	
N. J., '29	75		888	110	1505	323	18	164	208	60	389	2112	62	7	184	157	234	4	126	21
N. C., '29			193	9	1283	110	1	58	121	28	116	2246	6		29	59	18		9	5
N. D., '29			48		460	28		19	31	38	24	881	2		19	9	10		2	
Ohio, '29	57		880	74	3254	297	24	299	275	168	730	5105	54	10	219	217	322	10	114	41
Oregon, '29	9		154	4	668	72		40	69	118	95	1072	9	4	42	42	40		6	1
Pa., 1929	108		1517	124	2939	697	25	343	410	205	796	5252	104	7	379	300	437	15	198	42
Rh. Isl.'29	12		139	16	176	72	7	63	51	21	59	289	10		34	15	20		22	1
S. C., '29			92	4	983	51		38	37	4	48	1469	9		11	32	19			1
S. D., '29	7		72	1	603	33		17	58	49	44	816			16	11	23		1	
Utah, '29	5		44	5	266	17		20	39	26	45	391	5		30	11	20		5	2
Va., '29	3		191	7	1061	91		60	111	30	123	1710	3		44	36	76		19	7
Wash., '29	17		202	10	634	109	4	96	90	129	135	1402	11		54	51	89	1	13	7
W. Va., '29	13		122	12	633	72	1	44	75	20	112	836	1		55	25	35	1	18	7
Wis., '29	13		426	21	1348	128	2	80	143	67	286	1942	21	4	99	104	62	1	26	10
D. of C., '29	8		119	13	294	43	1	18	33	16	83	509	4		41	32	33	2	18	2
Total, '29	535	*	8925	832	30002	3529	176	2290	3191	1674	5239	49594	447	70	2181	2016	2618	52	1137	277

*Not in production at that time.

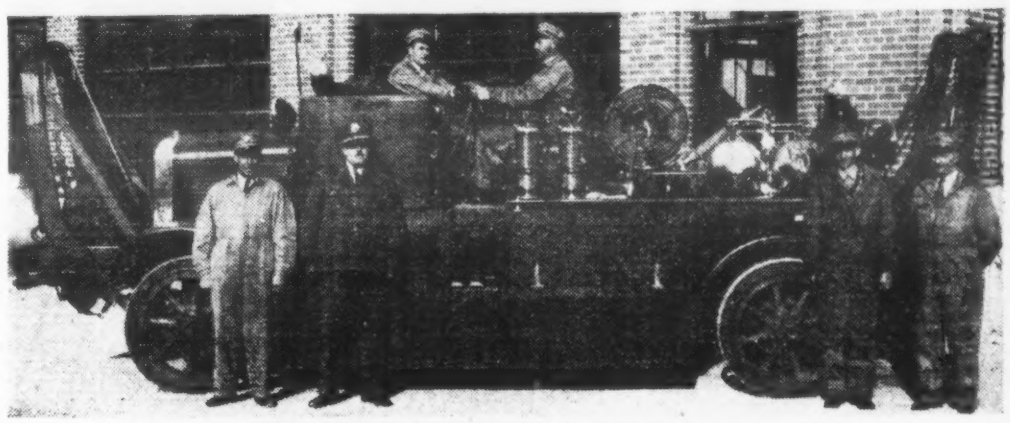
Equipment - - - Development

F W D Combination Truck Used in New Vehicular Tunnel

A UNIQUE installation in the new international vehicular tunnel, which was recently opened between Detroit, Mich., and Windsor, Ont., Canada, under the Detroit River, is the F W D combination wrecker and fire-fighting, dual control unit. This truck is equipped at either end with winches, dollies and jacks for quick handling of motor vehicles wrecked within the tunnel. It is also completely equipped with fire-fighting apparatus, and with materials for administering first aid to the injured.

Built into the unit there are four-wheel-driving mechanisms, which permit steering the truck through the wheels on either axle, thereby allowing either end of the truck, as the situation may demand, to become the forward end of the vehicle. Two complete steering gears, each controlling one of the wheels sets, work independently of each other, or they may be worked co-operatively. When either set of wheels is the trailing one, it is locked rigidly to place. Although there are clutch, brake, and accelerating pedals individual to each driving position, there is but one gear shifting and one emergency brake leaver common to the use of either driving position.

The KS motor, used in this unit, develops 76 b. hp. at 2500 r. p. m., a power sufficient to meet the specified demands upon the truck to haul a total load of fifteen tons up a 5.2 per cent. gradient at the rate of four miles per hour. The speed of the unit as a fire truck is between 20 and 25 m. p. h., whether stering through one or the other control unit. There are three steering through one or the other To equalize the speeds as between the controls, there is in the differential a 1.1 ratio in reverse.



FWD combination wrecker and fire fighting unit

REGISTRATION STATISTICS, OCTOBER, 1930

States	Marmon	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Studebaker	Stutz	Viking	Whippet	Willys	Willys-Knight	Windsor	Miscellaneous	Totals
Arizona	2	16	4	8	5	3		13	9		28				1	1			475
Arkansas	1	22	5	12	2		2	45	17	2	12		2	5	4	2			1,241
Conn'ticut	27	84	34	34	79	1	18	63	104	23	96	1	4	6	21	20			2,716
Delaware	1	6	4	4	14		1	11	7	1	3			1	3				354
Florida	2	25	16	13	15		1	74	51	10	16		1	14	9	2			2,182
Idaho		8	1	3				22	13	8	15			1	4	2			561
Illinois	50	272	69	117	176	5	18	217	226	29	286	6	26	37	114	36	7	8	7,648
Maryland	4	54	15	41	37	4	9	68	51	11	59		2	4	24	8	2	1	2,152
Michigan	32	98	34	77	87	2	4	133	90	85	77		31	21	40	18		1	4,989
Minnesota	16	95	23	34	60	1	9	198	107	31	86	1	10	51	65	18		2	3,592
Missouri	21	82	29	54	55	1	19	143	94	15	53	2	5	29	56	10	5	2	3,589
Montana	5	24	7	2	4			24	11	5	5		1	16	11	4			739
Nebraska	3	31	5	29	7		1	150	53	5	56		5	28	64	12			2,703
N. Hamp.	12	35	3	18	2	1	3	28	16	17	16		1	2	14	2			689
New Jersey	69	261	65	109	186	15	38	137	156	39	219	1	13	31	66	64		1	6,133
N. Ca'lina	5	35	8	17	11		2	69	58	3	17		2	9	18	2			2,937
N. Dakota	3	15	5	10	2			26	19	1	13		1	12	21	1			664
Ohio	52	176	77	126	139	31	16	306	194	65	185	6	12	61	163	40		5	7,484
Oregon	3	21	6	18	10		2	38	41	14	33			6	7	3			1,229
Penna.	103	360	114	191	244	29	65	586	306	78	329	1	22	83	217	67	3	7	11,537
Rh. Island	3	26	5	5	16	2	9	27	29	30	28			4	8	12			921
S. Ca'lina	5	9	4	9	12			43	28	3	16			4		1			1,614
S. Dakota	3	12	5	33	1			54	12	4	23		3	12	9	2			962
Utah	1	24	4	8	6		1	3	7	2	21		2	1	2	3			505
Virginia	11	26	24	20	24	1	4	61	98	12	32			9	27	4			2,579
Wash.	5	31	16	27	15		4	48	53	21	62		3	28	34	9			1,856
W. Va.	19	36	13	24	11	1	4	89	48	11	34		1	18	46	9			1,629
Wisconsin	14	189	39	59	33	1	10	162	135	23	98		13	19	69	10	2	22	3,507
Dis. of Col.	7	36	16	34	31	17	5	28	36	4	30	1	1		9	7		4	1,341
Total	479	2109	650	1136	1284	115	245	2866	2069	552	1948	19	161	512	1126	369	19	53	78,533
Ariz., '29	15	30	14	24	11		4	31	32	1	54		5	45		10		9	1,451
Ark., '29	12	38	15	21	5		2	164	117	4	20		3	91		11		6	5,370
Conn., '29	56	128	58	77	106	7	18	97	165	46	116	6	9	78		42		16	3,959
Del., '29	1	17	11	10	13	1	3	11	25		10		1	11		2		1	575
Fla., '29	5	30	11	21	27	1	2	38	62	11	15		1	36				2	2,502
Idaho, '29	9	27	9	15	2			39	37	2	22		2	35		9		1	1,397
Ill., '29	80	345	197	369	293	27	53	394	501	87	340	29	29	288		93	9	81	14,622
Md., '29	20	94	24	61	45	7	12	56	111	8	77	8	2	45		17		1	3,423
Mich., '29	61	195	138	271	213	9	10	212	273	81	163	4	29	205		32	12	14	11,893
Minn., '29	14	112	51	96	59	5	14	204	194	21	133	8	3	205		41	7	6	5,965
Missouri,29	33	126	53	130	86	11	29	156	203	16	91	10	4	212		36	13	8	6,331
Mont., 1929	7	28	11	12	3			52	31	4	21		2	53		9		1	997
Neb., 1929	12	56	31	67	8	6	2	149	150	8	73		2	150		24	1	2	4,741
N. H., '29	18	46	8	34	13	3		19	43	20	28	2	2	27		16		2	1,088
N. J., '29	54	358	105	252	281	37	72	158	291	51	303	12	26	147		157	5	17	8,973
N. C., '29	15	66	26	50	21		2	108	156	3	31		1	81		7			4,858
N. D., '29	13	39	15	33	6			77	60	1	26		2	72		10			1,925
Ohio, '29	116	370	164	422	264	124	31	325	499	51	312	32	29	464		175	2	12	15,542
Oregon, '29	14	55	20	57	13		4	75	83	19	73		4	51		32		1	2,946
Pa., 1929	142	538	211	424	426	73	85	592	610	79	403	27	32	452		211	12	38	18,253
Rh. Isl. '29	3	59	12	26	31	6	14	43	64	20	34	3	1	27		20		1	1,371
S. C., '29	14	18	16	27	13		1	48	73	6	15		1	28		2			3,060
S. D., '29	3	27	9	77	4			107	56	6	37		3	104		8			2,192
Utah, '29	5	34	14	12	15		2	20	29	2	16	3	4	17		6			1,110
Va., '29	19	59	27	50	37	4	6	112	127	3	55	2		99		12		3	4,187
Wash., '29	21	75	26	79	33	6	5	162	96	10	106	3	9	56		44			3,785
W. Va., '29	20	61	29	58	19		4	73	79	9	46	5	3	86		19		4	2,597
Wis., '29	21	248	81	128	55	12	24	163	265	8	162	5	4	209		37	1	22	6,228
D. of C., '29	14	74	14	47	52	22	5	32	36	19	46		6	18		12		8	1,654
Total, '29	817	3353	1400	2950	2134	361	404	3717	4468	596	2828	159	219	3392	*	1094	62	256	142,995

NEW YORK SALON TO HAVE 96 EXHIBITS

(Continued from Page 1)

Isotta Fraschini, La Salle, Lincoln, Marmon, Minerva, Packard, Pierce-Arrow, Rolls-Royce and Stutz. Special coach-work exhibits will be made by Brewster, Brunn, Derham, Dietrich, Raymond H. Dietrich, Fisher, Fleetwood, Judkins, La Grande, Le Baron, Locke, Merrimac, Murphy, Rollston, Walker, Waterhouse and Willoughby. Many novelties in the line of accessories and equipment for de luxe motor cars will be shown on the various types exhibited.

Decidedly new designs and styles and types of automobile bodies will be disclosed with the opening of this automobile salon. Marking real steps of progress, each of these has a definite purpose: the enhancement of appearance, the increase of luxury or passenger comfort, the accomplishment of distinction, or the promotion of safety. As forecast by the recent Paris and Chicago salons, color schemes will be more subdued and yet more beautiful than ever before. The cars intended for formal usage adhere to the accepted dignity of simplicity.

Visitors to this year's salon will find that the world's famous body builders have attained new heights of achievement without sacrificing conservatism for extremity. All cars stress streamlining to an advanced degree. Bodies are lower than ever, due primarily to redesigned chassis and also by the use of footwells dropped into frames.

Practically all of the coachmakers have carried body panels down over the side of chassis frames in a wide variety of treatments. Some are only an inch or so below the former level, while others are carried down to the running board.

Many exhibitors have abandoned the practice of straight-rule moldings, flowing back from radiators into cowl or windshield panels for a raised pennant-shaped hood panel. Others have entirely eliminated molding patterns, with the result that these cars flaunt an extremely simplified exterior design.

Convertible bodies are also on display in greater number and variety than ever. One new convertible type, patterned after a popular European design, but adapted with typical American improvement, is a four-passenger Victoria coupe style. These models reflect a decided sport atmosphere, with low and wide side windows accentuating fleet lines.

Almost all cars are making much wider use of chromium plating or stainless steel this season. Practically all exposed parts are finished in one or the other of these rustless metals.

Coachmakers have attained new heights in beauty and comfort of their products and have given them real individuality and personality. In lines and finish, in upholstery and fittings and in color effects this has been the aim. Tanners of leather, weavers of cloth, metal-platers, artisans in inlaying rare woods, hardware designers, paint and lacquer research laboratories and many other allied trades have effectively co-operated with the carrossiers.

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
*Am La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	DR	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	CS	Zen	Vac	AB	Own	C	4	Own	2R	47.4	4	R	160	7200	S36x5	S36x5D
*Am La Fran.Chieftain	3-4	5500	Own	6	4⅛x5⅛	40.8	Pw	Zen	Vac	DR	Own	C	4	Tim	Wo	28.8	4	D	175	7200	S36x8	36x8D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	54.4	4	R	165	9800	S36x5	S40x6D
Am. La Fran. Big Chief	6	6725	Own	6	4½x6	48.6	Pw	Zen	Vac	DR	Own	C	4	Own	2R	32.8	4W	D	226	10600	S40x8	S40x8D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	—	63.5	4	R	165	10500	S36x7	S40x8D
Austin	—	475	Own	4	2.2x3	7.8	CS	Til	—	Aut	W-G	U	3	Sal	Sp	—	4	4	75	——	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SA	Sp	27.9	4 V	R	150	5060	34x7	34x7
Autocar D	2-2½	3500	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SD	2R	33.7	4 V	R	150	5300	34x7	34x7D
*Autocar SH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Gra	DR	Own T	U	4	Own H	2R	44.3	RV	R	114	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Vac	DR	Own T	U	4	Own H	2R	44.3	RV	D	157	6860	34x7	34x7D
*Autocar H	3	4100	Own	4	4½x5½	32.4	CS	Str	Gra	DR	Own T	U	4	Own H	2R	48.6	RV	R	114	6770	34x7	34x7D
*Autocar HS	3½	4600	Own	4	4½x5½	32.4	CS	Str	Gra	DR	Own T	U	4	Own C	2R	53.6	RV	R	114	7900	40x8	40x8D
*Autocar SHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Gra	DR	Own T	U	4	Own C	2R	65.3	RV	R	114	7900	40x8	40x8D
*Autocar SCHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	DR	Own T	U	4	Own C	2R	53.6	RV	D	157	8180	40x8	40x8D
Autocar TEA	3-3½	5350	Own	6	4¼x4¾	43.4	Pw	Str	Vac	DR	Own T	U	12	Own TE	2R	101.7	4 V	D	192	8900	36x8	36x8D
Autocar TFA	3½-5	6100	Own	6	4½x4¾	48.6	Pw	Str	Vac	DR	Own T	U	12	Own TF	2R	101.3	4 V	D	192	9300	38x9	38x9D
Autocar C	3½-5	5500	Own	6	4½x4¾	48.6	Pw	Str	Vac	DR	Own B	C	4	Own C	2R	61.7	RV	D	172	9500	42x9	42x9D
Autocar CG	5	8250	Own	6	4½x4¾	48.6	Pw	Str	Vac	DR	Own B	C	12	Tim	—	120	WB	D	196	13000	36x8	36x8B
Autocar F	7½	6800	Own	6	4½x4¾	48.6	Pw	Str	Vac	DR	Br-L 70	C	7	Tim	Wo	94.0	4 V	D	173	11000	36x7S	40x8DS
Autocar G	10	9000	Own	6	4½x4¾	48.6	Pw	Str	Vac	DR	Br-L 70	C	7	Tim	Wo	97.7	WB	D	171	13000	36x8	36x8D
Brockway 60	1	995	Con	6	3⅜x4	27.3	Pb	Zen	P	Aut	W-G	U	3	Col	Sp	—	4	Tr	132	3200	30x5	30x5
Brockway 65	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	3	Col	Sp	—	4	Tr	137	3400	30x5	30x5
Brockway 75	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	149	3650	32x6	32x6
Brockway 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Brockway 140	2-2½	2495	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	156	5500	32x6	32x6D
Brockway 141	2½	2935	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6200	32x6	32x6D
Brockway 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Brockway 175	3	3660	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	—	U	5	Wis	2R	—	4HV	D	170	7200	34x7	34x7D
Brockway 195	3-3½	3820	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Brockway 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Brockway 220	3½-4	4560	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Brockway 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L	U	4	Tim	Wo	—	4Hmv	D	182	10000	40x8	40x8D
Brockway 290	7½	7250	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7P	40x14S
*Brockway 640	10	9700	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	212	14000	38x7P	36x10S
Chevrolet	¾	355	Own	6	2⅛x3¾	26.3	CS	Car	P	DR	Own	U	3	Own	Sp	13.61	4	R	109	1835	4.75x19	4.75x19
Chevrolet	1½	590	Own	6	3⅛x3¾	26.13	CS	Car	P	DR	Own	U	4	Own	SP	33.46	4	R	157	2890	30x5	30x5D
Chevrolet	1½	520	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	4	Own	Sp	33.46	4	R	131	2375	30x5	30x5
Commerce Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col 54028	Sp	25.5	4	D	142	3900	P30x5	P30x5
Commerce Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4300	P30x5	DP30x5
Commerce Series 40	1½	2990	Bud H S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4700	P34x5	DP34x5
Commerce Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4500	32x6P	32x6D
Commerce Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4900	36x6	36x6D
Commerce Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	5100	36x6P	36x6D
Commerce Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4	D	175	7000	36x6P	36x6D
Commerce Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4	D	175	7100	36x6P	38x7D
Commerce Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B	D	175	8200	36x6S	36x12S
Commerce Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B	D	175	8400	36x6S	36x14S
Commerce Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 68700DP	Wo	95.0	B	D	175	9600	36x6S	40x14S
Day Elder 60	1	1195	Con 25 A	6	3⅜x4	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	36.3	4	4	135	3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	42.3	4	4	135	3750	20x6.00B	20x6.50DB
Day Elder 110	2	2095	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	44.9	4	D	156	4600	20x7.00B	20x7.00DB
Day Elder 130	2½	2895	Con 16 R	6	4 x4⅛	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	40.7	4	D	150	6400	20x7.50B	20x9.00DB
Day Elder 160	3	3695	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	36.1	4	D	156	6600	20x7.50B	20x9.00DB
Day Elder 200	4	4295	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	43.5	4	D	156	7400	20x9.00B	20x9.00B
Day Elder 240	5	5500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	Vac	DR	Br-L	C	4	Tim	Wo	50.8	4	D	162	9300	38x9P	38x9DP
Day Elder 285	8	6000	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	Vac	DR	Br-L	C	7	Tim	Wo	71.2	6	D	164	12000	20x8.25B	20x8.25DB
Day Elder 345	10	7500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	Vac	DR	Br-L	C	7	Tim	Wo	79.9	4	D	164	12500	20x9.00B	20x9.00DB
Day Elder 402	12	8500	Con 16 H	6	4¾x5¾	54.2	Pw	Zen	P	DR	Br-L	C	7	Tim	Wo	84.6	4	D	164	14000	20x9.75B	20x9.75DB
Diamond T 200	1	785	Bud	4	3¾x4½	22.5	*Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	128½	3050	30x5	30x5
Diamond T 215	1	885	Bud	6	3⅜x4	27.3	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	135¼	3150	30x5	30x5
Diamond T 290	1½	1475	Her WXA 2	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5D
Diamond T 303	2	1745	Her WXB	6	3¾x4½	33.7	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	160¾	4850	32x6	32x6D
Diamond T 551	2½	2250	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	168	5600	32x6	32x6D
Diamond T 506	2½	2820	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	2R	—	4	D	172½	6300	34x7	34x7D
Diamond T 504	3	2925	Her WXC 3	6	4¼x4½	43.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	2R	—	4	D	166½	6400	20x8.25B	20x8.25DB
Diamond T 602	3	3440	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	4	D	169½	7500	36x8	36x8D
Diamond T 606	3	3500	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	2R	—	4	D	186	7500	36x8	36x8D
Diamond T 700	3½	3740	Her YXC	6	4⅜x4¾	*45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	R	D	162	8100	S36x5	S36x10
Diamond T 801	4	4140	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	C	7	Own	Wo	—	6WH	D	189½	8300	36x8 4 wh	36x8
Diamond T 1000	5	4420	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	4	Tim	Wo	—	R	D	170½	9700	S36x6	S40x12
Diamond T 1200	6	5600	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	180	11000	34x7 4 w h	34x7D
Diamond T 1600	8	6220	Her YXC 3	6	4⅝x4¾	51.3	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	190	11700	36x8 4 wh	36x8D
Diamond T 1601	8	7500	Wak 6 R B	6	5 x5¾	60.0	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	12500	36x8 4 wh	36x8D
Diamond T 2500	10-12	8000	Wak 6 R B	6	5 x5¾	60	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	13100	S36x7 4 wh	36x12S
Dodge Bros. UF10	½	435	Own	4	3⅝x4¾	21.2	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1855	5.00x19	5.00x19
Dodge Bros. F 10	½	515	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1960	5.25x19	5.25x19
Dodge Bros. U-1	¾	695	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	21.68	4	D	124	2260	5.50x20B	5.50x20B
Dodge Bros DA1	¾	795	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	140	2955	30x5	30x5
Dodge Bros. UF30	1½	595	Own	4	3⅝x4¾	21.0	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2665	6.00x20	32x6
Dodge Bros. F 30	1½	695	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2765	6.00x20	32x6
Dodge Bros. F 35	1½	1425	Own	6	3⅝x2⅞	27.3	Pb	Zen	P	DR	Own	U	4	Own	Sp	41.43	4	D	140	3780	6.00x20	6.00x20D
Dodge Bros. F 36	1½	1485	Own	6	3⅜x3⅞	27.3	Pb	Zen	P	DR	Own	U	4	Own	Sp	41.43	4	D	165	3972	6.00x20	6.00x20D
Dodge Bros. F 40	2	1995	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	43.73	4	D	150	5175	6.50x20	6.50x20D
Dodge Bros. F. 41	2	2085	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	43.73	4	D	165	5211	6.50x20	6.50x20D
Dodge Bros. F 60	3	2645	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	146	5543	32x6	32x6D
Dodge Bros. F 61	3	2575	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	170	5789	32x6	32x6D
Dodge Bros. F. 62	3	2695	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	195	5901	32x6	32x6D
Durant	*¾	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Essex Commercial	¾	445	Own	6	2¾x4½	18.2	CS	Mar	Vac	Aut	Own	U	3	Own	Sp	17.8	4	4	110	2150	30x5	31x5.50
Federal D	1-1½	830	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B374	Sp	40.8	4	Tr	131	3185	6.00x20	32x6
Federal E6	1-1½	1090	Con 17 E	6	3⅜x4	27.3	Pb	Zen	Vac	DR	W-G T9	U	4	Cla B370	Sp	34.6	4	Tr	132	3260	6.00x20	32x6
Federal F7	1½	1525	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	DR	Own	U	4	Tim 52005H	Sp	24.3	4	Tr	132	3765	30x5	30x5D
Federal A6	2	1855	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Cla B610	Sp	38.5	4	Tr	151	4580	32x6	32x6D
Federal A6T	2½	2185	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 58000H	Sp	41.3	4	Tr	151	4950	32x6	32x6D
Federal A6TW	2½	2360	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 65001H	Wo	42.0	4	Tr	151	4950	32x6	32x6D
*Federal DSW	2½-3	1050	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B-374	Sp	40.8	6	Tr	158	3800	6.00x20	32x6
Federal T10B	2½-3	2740	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 58200H	Sp	36.3	4	Tr	165	6550	34x7	34x7D
Federal T10W	2½-3	2915	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 65201H	Wo	44.0	4	Tr	165	6550	34x7	34x7D
Federal U6	3-3½	3860	Con 18 R	6	4 x4½	38.4	Pb	Str	P	DR	Br-L 55	C	7	Tim 65706HP	Wo	64.6	4	D	165	7220	34x7	34x7D
Federal 4C6A	4-5	4735	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704HP	Wo	73.6	4	D	192	8330	36x8	36x8D
Federal 4C6AB	4-5	4960	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704TWP	Wo	73.6	4	D	192	8850	36x8	36x8D
*Federal U6SW	6	6000	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9850	34x7	34x7D
*Federal U6SWAB	6	6500	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9900	34x7	34x7D
Federal X8	7½	5085	Con B 7	4	5 x6	40	Pw	Zen	Vac	AB	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	9750	36x6S	40x14S
Federal X8R	7½	5810	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	10000	40x8	40x8D
*Federal 4C6SW	8	7500	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 300	Wo	80.8	6	Tr	231	11500	36x8	36x8D
Ford AA	1½	510	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	131½	2723	6.00x20	32x6
Ford AA	1½	535	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	157	2811	6.00x20	6.00x20
F W D—H	1½	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
F W D—H6	2	3425	Wak	6	3¾x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F W D—BTL	2	3900	Wak	6	3¾x4¾	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	137½	6000	36x8	36x8
F W D—HH6	2½	4000	Wak	6	3¾x4¾	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	101.0	4	R	138	6400	36x8	36x8
F W D—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6S	36x6S
F W D—B T	3-3½	4742	Wak	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Eis	Own	C	5	Own	St	101.0	4	R	137¾	7700	40x7S	40x5SD
F W D—C U 6	3½	5120	Wak	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7200	36x6S	36x8S
F W D—SSU	4	5220	Wak	6	4⅜x5⅛	45.9	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7600	38x9	38x9
F W D—M 5	5	7600	Wak	6	4⅜x5⅛	45.9	P	Zen	P	Aut	Br-L	C	8	Wis	2R	193.1	4V	D	165	11000	12.75x20B	12.75x20B
*F W D—X 6	6	6500	Wak	6	4⅜x5⅛	45.9	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	*	4	170	9500	36x8	36x8
F W D—M 7	7½	8700	Wak	6	5 x5¾	60	P	Zen	P	Aut	Br-L	C	8	Wis	2R	193.1	4V	D	165	13000	40x10P	40x10DP
Garford Series S 11	1	1600	Bud H S 6	6	3¾x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col 54028	Sp	25.5	4	D	142	3900	P30x5	P30x5
Garford Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4300	P30x5	DP30x5
Garford Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4700	P34x5	DP34x5
Garford Series S 11	2	2030	Bud H S 6	6	3¾x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4500	32x6	D32x6
Garford Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4200	36x6	D36x6
Garford Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	5100	36x6	D36x6
Garford Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7000	36x6	D36x6
Garford Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7100	36x6	D38x7
Garford Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8200	S36x6	S36x12
Garford Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8400	S36x6	S36x14
Garford Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	95.0	4	D	175	9600	S36x6	S40x14
Gen. Mot. T11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Pontiac	Sp	14.7	4	4	109⅝	1980	5.00x19B	5.50x19B
Gen. Mot. T15-1501	*5400	695	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51500	Sp	16.14	4	4	130	2625	5.50x20B	5.50x20B
Gen. Mot. T17-1701	*5500	735	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2650	6.50x20B	6.50x20B
Gen. Mot. T17-1707	*6500	750	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2670	5.50x20B	32x6
Gen. Mot. T19-2201	*6300	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2850	5.50x20B	32x6
Gen. Mot. T19-2214	*8500	995	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2925	30x5	30x5D
Gen. Mot. T25-2501	*6800	1235	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3375	6.00x20B	7.50x20B
Gen. Mot. T25-2509	*8500	1300	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3425	30x5	30x5D
Gen. Mot. T30-3206	*9000	1555	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4450	6.00x20B	8.25x20B
Gen. Mot. T30-3203	*11000	1605	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4525	32x6	32x6D
Gen. Mot. T42-4206	*10600	1735	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4575	7.00x20B	9.00x20B
Gen. Mot. T42-4203	*14000	1960	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4905	36x6	36x6D
Gen. Mot. T44-4401	*12000	1965	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	4825	32x6	32x6D
Gen. Mot. T44-4404	*15000	2095	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	5095	34x7	34x7D
Gen. Mot. T60-6202	*16500	3035	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	34x7	34x7D
Gen. Mot. T60-6205	*18500	3150	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	9.00x20B	9.00x20DB
Gen. Mot. T82-8202	*19000	3795	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7500	9.00x20B	9.00x20DB
Gen. Mot. T82-8207	*22000	4070	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7850	38x7	38x9D
Gen. Mot. T90-9001	*23000	5885	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9400	7.50x20B	7.50x20D
Gen. Mot. T90-9004	*28000	6055	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9775	8.25x20B	8.25x20DB
Gramm BX	1½	895		4				Til	P	Aut	W-G	U	4	Tim	Sp		4	D	131	2900	6.00x20	6.00x20D
Gramm BX	1½	995		6				Til	P	Aut	W-G	U	4	Tim	Sp		4	D	131	2900	6.00x20	6.00x20D
*Gramm B	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	34.3	4	D	140	3800	6.50x20	6.50x20D
*Gramm C	2	1795	Lyc ASA	6	3⅝x4½	31.54	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	31	4	D	160	4820	7.00x20	7.00x20D
Gramm CX	2	1045		4				Til	P	Aut	W-G	U	4	Tim	Sp		4	D	131	3100	6.50x20	6.50x20D
Graham CX	2	1145		6				Til	P	Aut	W-G	U	4	Tim	Sp		4	D	131	3100	6.50x20	6.50x20D
*Gramm D	2½	1995	Lyc ASD	6	3¾x4½	33.7	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	33	4	D	160	5100	7.50x20	7.50x20D
*Gramm E	3	2595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	35	4	D	160	5500	8.25x20	8.25x20D
*Gramm EY	3	3595	Con 20 R	6	4⅛x4¾	40.80	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	30	4	D	190	6750	7.50x20	7.50x20D
*Gramm T-38	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	45	D	R	153	7200	36x5S	36x10S
*Gramm O-45	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	75.8	D	R	153	7700	36x5S	36x12S
*Gramm GY	4	4345	Con 21 R	6	4⅝x4¾	45.9	Pb	Zen	P	Aut	Cov	U	4	Wis	2R	28	4	D	210	7200	8.25x20	8.25x20D
Gramm DW	4	5175	Con 21-R	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Cov	U	4	Wis	2-R		4W	D	157	8900	9.00x20	9.00x20D
*Gramm O-60	5	4745	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	78.4	D	R	153	8800	36x6S	36x14S
*Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	25.2	4	D	236	9600	36x8	36x8D
Indiana 60	1	995	Con	6	3⅝x4	27.3	Pb	Str	P	Aut	W-G	U	3	Col	Sp	—	4	Tr	132	3200	30x5	30x5
Indiana 64	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	3	Col	Sp	—	4	Tr	137	3400	30x5	30x5
Indiana 74	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	137	3450	32x6	32x6
Indiana 11	1¼	1425	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	—	R	R	129½	3500	30x5	30x5
Indiana 89	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	149	3650	32x6	32x6
Indiana 111	1½	1630	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	—	R	R	129½	360^	30x5	32x6
Indiana 111 XW	2	1850	Her	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L	U	4	Wis	2R	—	R	Tr	120	3740	32x6	32x6D
Indiana 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Indiana 140	2-2½	2495	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	R	156	5500	32x6	32x6D
Indiana 141	2½	2935	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6200	32x6	32x6D
Indiana 115 A	2½	2740	Her	4	4¼x5	28.9	Pb	Str	Vac	Eis	Br-L	U	4	Cla	Sp	—	R	Tr	132	4970	32x6	34x7D
Indiana 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Indiana 175	3	3660	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	—	U	5	Wis	2R	—	4HV	D	170	7200	34x7	34x7D
Indiana 127 AW	3	3775	Her	4	4¼x5¾	28.90	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	—	RV	D	150¼	7000	34x7	34x7D
Indiana 627 AW	3	4075	Wis	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	—	RV	D	156¼	7200	34x7	34x7D
Indiana 195	3-3½	3820	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Indiana 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Indiana 220	3½-4	4560	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Indiana 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HMV	D	182	10000	40x8	40x8D
Indiana 290	7½	7250	Con	6	4¾x5¾	54.1	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7P	40x14S
*Indiana 640	10	9700	Con	6	4¾x5¾	54.1	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	212	14000	38x7P	36x10S
International AW-1	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Own	Sp	17.4	4	2	136	2620	5.25x20	5.25x20
International Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 502 R	Sp	60.3	4	2	124	2200	30x5.25	30x5.25
Internat'l 6 Spd. Spec	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 1124	Sp	52.6	4	2	124	2430	30x5	30x5
International S-24	1¼	1160	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3200	30x5	30x5
International S-26	1¼	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3250	30x5	30x5
International AW-2	1½	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Own	Sp	60.3	4	2	136	2980	5.50x20	6.00x20
International SF-34	1½	1450	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3520	30x5	32x6
International AL-3	1½	1450	Lyc SLH	6	3¼x4½	25.3	Pb	Zen	Vac	DR	W-G	U	4	Own	Sp	42.9	4	2	138	4300	6.00x20	6.00x20D
International SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3570	30x5	32x6
International SD-44	2	1590	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3700	30x5	32x6
International SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3750	30x5	32x6
International SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	4	Eat 2002	Sp	40.6	4	2	140	4000	32x6	32x6D
International A-4	2	1985	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Own	Sp	47.8	4	2	145	5070	32x6	32x6D
International HS-54	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 54	2R	60.5	4	4	148	8000	36x5S	36x8S
International HS-54-C	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own A M 428	Ch	63.8	4	4	148	6665	36x5S	36x10S
International W-1	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own	2R	60.5	4	2	148	8300	36x5S	36x8S
International A-5	3	2550	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Own	Sp	52.6	4	2	156	5606	34x7	34x7D
International A-6	3	2675	Own BB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Own	Sp	62.5	4	2	156	5750	34x7	34x7D
International HS-74	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 74	2R	70.5	4	4	160	10700	36x5S	40x12S
International HS-74-C	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	79.1	4	4	160	11000	36x6S	40x12S
International W-3	3½	4850	Hall S-152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own	2-R	70.5	4	2	160	10125	36x6S	40x12S
International HS-104-C	5	5500	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	90.5	4	4	160	11095	36x6S	40x14S
La France-Repub. A-1	*6000	795	Lyc	6	2⅞x4¾	19.8	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	36.1	4	Tr	132	3000	5.50x20	32x6
La-France-Repub. C-1	*7500	1295	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	29.1	4	Tr	144	3300	6.00x20	32x6
La France-Repub. D-1	*9000	1595	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	37.9	4	Tr	144	3725	30x5	30x5D
La France-Repub. F-2	*13000	2395	Lyc	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	40.1	4	D	174	5400	32x6	32x6D
La-France-Repub. H-2	*15000	2985	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	44.5	4	D	174	5850	34x7	34x7D
La France-Repub. 35-2	24000	5600	Wak	6	4½x5¾	48.6	Pb	Zen	Vac	Aut	Ful	U	4	Wis	2-R	45.4	4	D	174	8200	38x9	38x9D
La France-Repub. M-2	*20000	4000	Wak	6	4⅜x5⅛	48.0	Pb	Zen	Vac	Aut	Ful	U	5	Wis	2R	62.3	4	D	174	6900	36x8	36x8D
Mack BL	1	2500	Own	6	3¼x5	25.39	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	148	—	B6.00x20	DB6.00x20
†*Mack BG	1½	3000	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	138-156	—	32x6	D32x6
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	36x4S	36x8S
††Mack AB	2½-3	3500	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	36x4S	36x8S
Mack AB	2½-3	4750	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack AB	2½-3	4300	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	34x7	D34x7

MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
††Mack B	3-4	5250	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	2R	Opt	4	D	2-Opt	—	36x8	D36x8
††Mack BC	3½-5	5500	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	Ch	Opt	4	D	2-Opt		36x8	36x8D
††Mack BJ	3½-5	6150	Own	6	4½x5½	48.6	Pb	Str	Vac	NE	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x8	36x8D
††Mack AK	3½-5	5150	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4	J	3-Opt	—	36x5S	36x5DS
††Mack AK	3½-5	5250	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x5S	36x5DS
††Mack AC	3½-5	4950	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x5S	40x10S
††Mack AC	5½-7	5500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x6S	40x12S
††Mack AC	7½	6000	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36::7S	40x14S
††Mack AP	7½	9500	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	R	J	191	—	36x7S	40x8DS
††Mack A C 6-wheel	10	7500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7S	40x12S
††Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7	40x12S
Paige	¾	860	Own	6	3¼x4½	25.35	Pb	DL	P	DR	W-G	U	3	Sal	Sp	17.36	4	Tr	115	2465	B5.50x19	B5.50x19
Relay Series 15 AA	¾	1370	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	2-R	38.4	4	D	131	3750	30x5P	30x5P
Relay Series 15 AB	1	1400	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	2R	38.4	4	D	131	3800	P30x5	P30x5
Relay Series S 11	1	1700	Bud 11 S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2-R	25.5	4	D	142	4050	30x5P	30x5P
Relay Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2-R	30.0	4	D	162	4500	30x5P	30x5DP
Relay Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2-R	34.5	4	D	168	5300	34x4P	34x5DP
Relay Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2R	34.5	4	D	168	5500	36x6	D36x6
Relay Series 50	2	3860	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	2R	58.5	4	D	161	6800	36x6	D36x6
Relay Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2-R	30.0	4	D	162	4700	32x6P	32x6DP
Relay Series 40	2½	3275	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	2R	34.5	4	D	168	5700	36x6	D36x6
Relay Series 50	2½	4000	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	2R	58.5	4	D	161	7000	36x6	D38x7
Relay Series 60	2½	4555	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	C	5	Own	2-R	58.5	4	D	175	7350	36x6	D36x6
Relay Series 50	3	4130	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	2-R	58.5	4	D	161	7200	36x6	D40x8
Relay Series 60	3	4595	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	C	5	Own	2-R	58.5	4	D	175	7500	36x6	D38x7
Relay Series 60	3	4570	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	2-R	58.5	4	D	175	7500	36x6P	38x7DP
Relay Series 80	3	5170	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	2-R	84.18	4	D	175	8400	36x6	S40x10
Relay Series 60	3½	4745	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	C	5	Own	2-R	58.5	4	D	175	7800	38x7	D40x8
Relay Series 80	3½	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	2-R	84.18	4	D	175	8600	36x6	S40x12
Relay Series 80	4	5380	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	2-R	84.18	4	D	175	8800	38x7	S40x14
Relay Series 50 SW	5	5505	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	2-R	54.7	4	D	152	8600	36x6P	36x6DP
Relay Series 100	5	6615	Con 21 R	6	4⅜x4¾	45.9	Pb	Str	Vac	Aut	Ful	C	5	Own	2 R	58.5	4	D	230	10000	9.00x24	D9.00x24
Relay Series 60 SW	7	6545	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	2-R	63.6	4	D	175	12000	38x7P	40x8DP
Reo 15 Junior	½	785	Con 19 E	6	3⅜x4	27.3	Pb	Sch	P	DR	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	6.00x18	6.00x18
Reo D F 129	1	1095	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	3	Own	Sp	17.1	4	Tr	129	3050	6.00x20	32x6
Reo D F	1	1095	Own C B	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	3	Own	Sp	17.1	4	Tr	135	3200	6.00x20	32x6
Reo F A	1½	1295	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	137	3525	6.00x20	32x6
Reo F E	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	152	3700	6.00x20	32x6
Reo F F	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	156	3750	6.00x20	32x6
Reo F H	2	1595	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6D
Reo F C	2	1645	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6D
Reo F D	2	1745	Own	6	3¾x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6D
Reo G A	3	2035	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6D
Reo G C	3	2140	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6D
Reo G D	3	2085	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	78.1	4	Tr	144	4570	32x6	32x6D
Reo G C S	3	2375	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	210	5320	32x6	32x6D
Rugby T	½	655	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Own	U	3	Own	Sp	15.6	4	4	—	2160	29x5	29x5
Rugby 6-15	1	885	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	2900	20x5.50	32x6
Rugby 615	1½	930	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	3000	5.50x20	30x5D
Selden 7 C	1¼	1195	Con	6	3⅛x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	124	3100	30x5	30x5
Selden 17 C	1½	1500	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 317 C	1½	1610	Con	6	3⅛x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 37 C	2	1935	Con	6	3⅛x4⅝	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	151	4800	32x6	32x6D
Selden 39 C	2½	2920	Con	6	4 x4⅛	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	164	5800	32x6	32x6D
Selden 47 C B	3½	3785	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	171	7200	34x7	34x7D
Selden 47 C D	4	4435	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	5	Wis	2R	—	4	D	171	7600	36x8	36x8D
Selden 67 C	5	4975	Con	6	4⅜x4¾	45.94	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	171	8700	36x8	36x8D
Selden 77	7	7365	Con	6	4¾x5¾	54.15	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	178	12000	36x7	40x7D
Service Series S 11	1	1600	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col 54028	Sp	25.5	4	D	142	3900	P30x5	P30x5
Service Series S 11	1½	1900	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4300	P30x5	DP30x5
Service Series 40	1½	2990	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	WO	34.8	4	D	168	4700	P34x5	DP34x5
Service Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4500	32x6	D32x6
Service Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4900	36x6	D36x6
Service Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	WO	34.8	4	D	168	5100	P36x6	D36x6
Service Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7000	36x6	D36x6
Service Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7100	36x6	D38x7
Service Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8200	S36x6	S36x12
Service Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8400	S36x6	S36x14
Service Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	95.0	4	D	175	9600	S36x6	S40x14
Stewart 30	1	695	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2905	6.50x20	6.50x20
Stewart 30 X	1	795	Lyc WRG	6	2⅞x4¾	19.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2965	6.50x20	6.50x20
Stewart 40	1½	895	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	130	3215	6.50x20	6.50x20D
Stewart 40X	1½	995	Lyc WTG	6	3 x4½	23.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	3250	6.50x20	6.50x20D
Stewart 34 X	1½	1195	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	145	3526	6.50x20	6.50x20
Stewart 28 X	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	Ful	U	4	Cla	Sp	44.1	4	D	136	3958	6.50x20	6.50x20
Stewart 29XS	2	1695	Lyc ASA	6	3¼x4½	25.3	Pb	Str	P	DR	Ful	U	4	Cla	Sp	44.1	4	D	145	4450	32x6	32x6D
Stewart 26 XW	2	2290	Lyc TF	6	3¾x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5095	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc TF	6	3¾x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5788	32x6	32x6D
Stewart 32 X	2½	1990	Lyc ASA	6	3⅝x4½	31.54	Pw	Str	Vac	DR	Ful	U	4	Cla	Sp	46.1	4	D	165	5100	32x6	32x6D
Stewart 35 X	3	2590	Lyc AFD	6	3¾x4½	33.8	Pw	Str	P	DR	Ful	U	4	Cla	Sp	46.1	4	DR	165	5800	8.25x20B	8.25x20D
Stewart 33 X	3	3290	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	105.1	4	D	165	6450	34x7	34x7D
Stewart 19 X	3½	3690	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	C	12	Tim	Wo	105.1	4	D	165	7010	36x5	36x10
Stewart 31 X	5	4990	Wak 6 RSL	6	4⅜x5⅛	45.9	Pw	Str	Vac	DR	Ful	C	8	Tim	Wo	82.1	4	D	165	8400	36x6S	36x6SD
Stewart 27 X	6-7	5700	Wak 6 RSL	6	4⅜x5⅛	45.99	Pw	Str	Vac	DR	Ful	U	8	Tim	Wo	93.81	4	D	165	9927	36x7	40x7D
Studebaker GN-P	¾	845	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	15.15	4	‡4	115	2465	6.00x19	6.00x19
Studebaker GN-S	1	1045	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	130	2990	6.00x20	30x5
Studebaker GK-N	1	1095	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	146	3000	30x5	30x5
Studebaker S-20	1½	695	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	130	2985	6.00x20	32x6
Studebaker S-30	1½	775	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	160	3140	6.00x20	32x6
Studebaker S-50	2	895	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	148	3810	6.50x20	6.50x20D
Studebaker S-60	2	945	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	160	3850	6.50x20	6.50x20D
Studebaker GN-N	*4000	1245	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Cla	U	4	Cla	Sp	33.5	4	D	146	3265	30x5	32x6
Studebaker 77	*12500	2895	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	158	5030	7.00x20	7.00x20D
Studebaker 88	*12500	3295	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5200	7.50x20	7.50x20D
Studebaker 99	*14000	3795	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5680	7.50x20	7.50x20D
Whippet 96 A	½	360	Own 96 A	4	3⅛x4¾	15.6	Pw	Til	Vac	Aut	Own	U	3	Own	Sp	15.84	4	B	103¼	1665	4.75x19	4.75x19
White 15 B		1545	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3402	30x5	30x5
White 160		1700	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	19.5	4	Tr	138	4025	30x5	30x5
White 161		1850	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	19.5	4	Tr	138	4290	34x7	34x7
White 60		1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	3	Own	Sp	17.8	4	D	138	3739	30x5	30x5
White 162		1900	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	19.5	4	Tr	138	4260	30x5	30x5D
White 210		2300	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	Tr	148	4875	30x5	30x5D
White 211		2425	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	Tr	148	5110	32x6	32x6D
White 212		2700	Own 6 RCB	4	4 x5¾	25.6	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	Tr	148	5230	34x7	34x7D
White 57		2725	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3935	32x6	32x6
White 20 A		2125	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	2R	32.1	R	R	145½	4572	34x5	34x5D
White 61		2450	Own 4 A	6	3¾x4½	33.75	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	D	148	4789	30x5	30x5D
White 56		3125	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	Eis	Own	U	4	Own	Sp	26.2	R	D	165	5276	36x4S	36x7S
White 51 A		3750	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	4	Own	Sp	35.6	R	D	170	6438	36x5S	36x9S
White 51 AT		3875	Own 6 RB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	4	Own	Sp	46.6	R	D	134	6227	36x5S	36x8S
White 58		4400	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	4	Own	IG	49.7	D	R	170	6438	36x5S	36x9S

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity Tons	Chassis Price	Engine	No. of Cyl.	Bore Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
White 65 K		4600	Own 3 A	6	4 x5¼	38.4	Pw	Zen	—	DR	Own	U	4	Own	Sp	33.9	4	D	180	7408	8.25x20B	8.25x20DB
White 55		4650	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	4	Own	IG	66.1	D	R	174	8737	36x5S	40x5SD
White 52 T		4700	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	4	Own	IG	76.5	D	R	129½	8461	36x5S	40x5SD
White 52		5100	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Eis	Own	U	5	Own	IG	58.4	D	R	174	9409	36x6S	40x12S
White 59 A		6000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	66.5	D	R	155	9775	40x8	40x14S
White 63		5000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	41.4	4	D	168	8350	34x7P	34x7DP
White 64		6300	Own 1 A	6	4⅜x5¾	45.94	Pw	Zen	P	LN	Own	U	4	Own	2R	46.9	4	D	180	9154	36x8P	36x8DP
Willys Six 98 B	½	525	Own 98 B	6	3¼x3⅞	25.35	Pw	Til	Vac	Aut	Own	U	3	Own	Sp	14.28	4	B	110	1904	5.50x19	5.00x19
Willys Six C-101	1½	695	Own C 101	6	3¼x3⅞	25.35	Pw	Til	Vac	Aut	Own	U	4	Cla	Sp	42.33	4	B	131	2740	5.50x20	30x5
Willys-Knight T-103	1½	825	Own KGT	6	2⅞x4⅜	20.7	Pw	Til	Vac	Aut	Cov	U	4	Cla	Sp	42.33	4	B	131	2848	5.50x20	30x5

GENERAL NOTATIONS

***†REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all main, connecting rod and camshaft bearings, including wrist pins; CS, circulating splash; Sp, splash.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Vac, Vacuum tank; P, Fuel pump.

IGNITION — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; N-E, North East; RB, Robert Bosch; DR, Delco-Remy; Mag, Magneto

TRANSMISSION—Br, L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cotta Cotta Gear Company; Cla, Clark Equipment Company.

LOCATION—C, center, amid; U, in unit with engine; J, on jackshaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, Internal gear; St, Straight bevel; Sp, Spiral bevel; Wo, Worm; 2R, Double reduction; Ch, Chain; R, Relay drive.

BRAKES—J, Jackshaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; V, Vacuum booster; W, Westinghouse air brake; B, Both front and rear wheels.

TIRES—B, Balloon; D, Dual; S, Solid; P, Pneumatic

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900.

Chieftain model also available as Dump Truck, 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUTOCAR

*Engines in these models are located under the driver's seat.

BROCKWAY

*Six wheelers.

DAY ELDER

Additional standard wheel bases are available on different models as follows:—

60.....	156	200.....	165, 180, 204
85.....	156, 168	240.....	214
110.....	168, 186	285.....	216
130.....	165, 180, 204	345.....	216
160.....	165, 180, 204	402.....	216

DIAMOND T.

Myers Magazine oiling system for chassis optional equipment.

DURANT

*Price includes panel body.

F. W. D.

The BTL and BT models are special line construction trucks in which complete provision for mounting AT and T earth boring machine, winch, body and other line construction accessories is included in the standard chassis.

*Indicates six-wheel model.

Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

*Foot brake on X6 is a Bendix type, operating on all six wheels.

FEDERAL

*Six wheelers.

GRAMM

Series	Straight Rating	Add Wheel Base	Pay Load Range
6	10,000	157-174	1¾ tons
B	11,000	145-196	2 tons
C	13,000	145-196	2½ tons
D	13,000	145-196	3 tons
E	15,000	145-196	3 tons

GENERAL MOTORS TRUCK

*Capacity indicated for each chassis is the reccmmended gross weight without exceeding rated capacity of tires. The tire size does not affect the straight rating for which chassis is guaranteed and each model is designed to operate satisfactorily under average conditions with loads giving a total gross weight (chassis, body, equipment and payload) equal to straight rating given below. The additional standard wheel base lengths, the number of additional tire types (tire combinations—each type carrying a recommended gross weight) and the ton range on a nominal payload basis for each model is given below.

Model	Straight Rating	Additional Wh. bases, ins.			Addit'l Tire Types	Payl'd Range
T-11	3800	None			None	½
T-15	5400	141			2	¾
T-17	6500	141			6	¾-1¼
T-19	8500	141		151	20	1-2
T-25	8500	141		152	15	1-1¾
T-30	11000	152		164	13	1½-2½
T-42	14000	152	164	181	10	2-3½
T-44	15000	152	164	181	10	2-4
T-60	18500	168¾	184½	200¼	16	2½-4½
T-82	22000	167½	185¼	201	10	3-6
T-90	28000	201		220	5	5-7½

Optional rear axle ratios are available for all models.

INDIANA

*Six wheelers.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs, 4 rear wheels driven by chains, foot brake on 4 rear wheels.

HYP—Hypoid drive, single reduction.

††Made also in tractor models.

REO

Model F A also available in 129-inch wheel base.

RUGBY

F—Chassis weight includes body.

SELDEN

Additional standard wheel bases are available on different models as follows:—

Model 37C.....	162 and 181
39C.....	177 and 190½
47CB, 47CD....	151, 164 and 184
67C.....	151, 164, 184 and 198

STEWART

Models 30 and 30X can also be supplied in 110, 120 and 140-inch wheel base.

Models 40 and 40X can also be supplied in 110, 140 and 160-inch wheel base.

*Model 34X can be supplied in 135, 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 130, 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 135, 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 176 and 190-inch wheel base.

*Models 18X, 32X and 33X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148, 172, 190, 220 and 235-inch wheel base.

As optional equipment models 18X, 19X, 33X, 31X and 27X can be supplied with Timken dual reduction rear axle.

STUDEBAKER

*Capacity model GN-N is 4,000 pounds for body, cab, driver and payload.

Maximum gross load, chassis, body and payload for Models 77 and 88 is 12,500 lbs. and for Model 99 is 14,000 lbs.

‡Hand brake same as foot brake, standard. Hand brake on drive shaft, special equipment.

MERCHANDISING ACCESSORIES EQUIPMENT

WHOLESALE

DISTRIBUTION SHOP EQUIPMENT REPLACEMENTS

Wholesale Parts, Accessory Business Still on Uptrend in New York-Pennsylvania Area

JAMESTOWN, N. Y., Nov. 26.—A survey of the wholesale automotive parts and accessories business in southwestern New York and northwestern Pennsylvania this month shows that the general upward trend in business noticeable since September 1 has been steadily maintained. The most encouraging news is the report that retailers and dealer service departments are showing a tendency to purchase in larger quantities, yet at the same time giving study to the situation to avoid overstocking.

It is the consensus of opinion among the major factors in the trade here that general hand-to-mouth buying on the part of retailers has been reduced to a minimum. Retail establishments and dealer service organizations are grouping their requirements and acquiring stocks of more satisfying proportions. Obviously, to a certain extent, this plan lowers the number of sales, but the volume of merchandise sold is greater, netting higher profits, both to wholesalers and retailers.

Holmes & Volz, Inc., Jamestown, one of the largest wholesale automotive and radio supply concerns in the district, has expressed satisfaction with the current trend in business. This firm reports a decided increase in sales volume since the first of the month, indicating that retailers are waking up to the fact that the industrial depression is on the wane, and that business, to be held, necessitates carrying a fairly adequate stock. The best demand, of course, at this time is for winter necessities, including chains, winter fronts, anti-freeze solutions, etc.

The J. A. Miller Auto Supply Company, Erie, serving fourteen counties in New York, Pennsylvania and Ohio, is completing the year 1930 with a very satisfactory volume of business, industrial depression notwithstanding. Business this year has been better than in 1928, although not up to the level of abnormal 1929. Judging from the volume of new business reported by salesmen in all districts, retailers' stocks of equipment and supplies are surprisingly low, and it is the opinion of officials of this concern that the first quarter of 1931 will show up in a highly satisfactory manner.

The Pennsylvania Rubber and Supply Company, Erie, with branch at Oil City, reports business this month as approximately 10 per cent. greater than in October, although not quite up to the level of November, 1929. Tires, tubes, anti-freeze solutions and other winter requisites are moving out of warehouse in excellent volume.

Late in December another wholesale jobber will enter the field in this area. The Erie Unit Parts, Inc., is being organized and incorporated in Erie, Pa., by Earl V. MacDonald, George L. Craft and A. A. Albaugh.

The Jamestown Unit Parts Company, Inc., Jamestown, N. Y., has recorded a wide improvement in new business from retailers and dealer service plants this month, and expects the upward trend in sales volume to continue throughout the first quarter of 1931.

SERVICE STATIONS PROTEST PROFIT CUT BY OIL COMPANIES

Jersey City, N. J., Nov. 26.—A mass meeting to protest against the cut in the independent service stations margin of profit by the major oil companies was held by members of the Hudson County Garage Owners' Association. Dealers from all parts of the county attended to protest against what is considered by the independents as an unfair discrimination.

According to a bulletin issued by the association, the gasoline dealers are objecting to a drop in the price of gasoline by most of the major companies.

They state this reduction is entirely unwarranted, having proved this to themselves by not adjusting their prices for four or five days after offical announcement and finding no apparent loss in business.

The bulletin states:

"Those dealers who have signed up 100 per cent. one brand of gas or other are not affected by the price cut, as they are rebated this amount at the end of each month. On the other hand, the independent dealers or split stations contend this practice is very unfair, as many company - controlled (100 per cent.) stations do not buy nearly as much gas as the independent stations do of that particular brand. For example, the majority of company - controlled (100 per cent.) garages, sell from 3,000 to 5,000 gallons per month, whereas many live wire, independent dealers can sell from 10,000 to 30,000 gallons per month of assorted brands of gas and thereby purchase over 5,000 gallons of each brand of gas. The rebating of this extra cent to company-controlled dealers, who sell perhaps one-half as much as an independent must, because he signs a contract, the independent says, is decidedly unfair.

"Another angle brought up by one dealer is that he has reliable information to the effect that it costs the oil companies from 6 to 9 cents per gallon to operate their own retail stations, whereas they offer the independent dealer 3 and the 100 per cent. (company-controlled) dealer 1 cent more. He asks how he can operate a station successfully on 3 cents, when the oil companies with their staff of efficiency experts cannot do the same for less than two or three times that amount."

Editor's Column

OUT of the depression of 1920-21 came certain developments which have featured business operations since then, and the question is now asked what the present reaction may offer. Hand-to-mouth buying and the expansion of mass distribution were the two chief offerings of the former setback. At present not a little is heard of the probabilities of promoting mass consumption.

The latter is a rather general term, and it is to be more or less assumed that if there is mass production and distribution there must be what amounts to mass consumption. The generalizing, however, may be accepted as meaning that steps are being taken to improve consumer buying power and to conserve it in times of emergency.

The two main lines of development now indicated consist of holding up wage levels as widely as possible and of providing some new means of financing purchasing power during business crises. Both are making more progress than is commonly recognized in circumstances so close to the emergency. The movement to maintain wages has universal support, and such means as unemployment insurance and public construction work are suggested as balance wheels for buying power in times of industrial recession.

Moreover, there is practically a revolution in thought taking place in industrial management with respect to wages and working schedules. One of the large manufacturers of the country and one of the conservative magazines unite in putting the message before the country that the companies which do not pay fair wages and stabilize employment are parasites, living off the prosperity generated by those which do. Perhaps the time is approaching when the growing group of managements which really promote the country's progress may join with distributors having the same ideas and principles in a claim for public support from all those who are benefited by such enlightened methods.

Wholesale Brevities

Dallas, Tex., Nov. 26 (UTPS).—H. C. Wilcoxen has retired from his private business to join the sales force of the Schoellkopf Company. He is working the city trade in Dallas. Lewis Starr has joined the sales staff of the Webb Company, Abilene branch.

Washington, Nov. 25.—Southern Wholesalers, Inc., of this city has attractively remodeled the front of its store.

Dallas, Tex., Nov. 26 (UTPS).—A. Ways, manufacturers' representative at Dallas, has established a warehouse on two of his lines—Ochrome Products Corporation and De Luxe Motors Products.

Washington, Nov. 26.—Southern salesman for Southern Wholesalers, Inc., is traveling the Fredericksburg, Va., territory.

Dallas, Tex., Nov. 26 (UTPS).—A. After a good many years with the home office of Straus-Frank Company at San Antonio and recently sales manager for the automotive division, has been transferred to the Harlinger branch of the company, where he becomes general manager. H. L. Rooke, Jr., will assist Mr. Quill at the Harlinger branch. James Deegan is now city man for the Straus-Frank branch house at Houston.

Business Revival is here

Leading manufacturing concerns in the automotive field have laid their plans for increased business in 1931. Expansion programs are under way to such a degree that we can truthfully say a business revival is here.

Business will not walk into your plant. Your share of increased business in 1931 must come as a result of more sales effort—more salesmen, more trade advertising, more consumer advertising.

The shortest, quickest road to increased profits at least cost is through advertising in business papers. Automotive Daily News is a good paper. Use its show issues at the start of the year if you want more sales at show time and after show time. Twelve issues cover both the New York and Chicago shows.

DISTRIBUTION

Distribution in excess of 300,000, including distribution of each issue at show booths, hotels, dealer meetings, conventions and other gatherings. The show issues also will be sent to 55,000 car and truck wholesalers and retailers, 3,000 jobbers of accessories, part and shop equipment, 4,000 bus operators and bus fleet operators, 5,000 truck fleet owners, 33,000 service stations, garages and specialty shops.

New York Show Issues

Publication Dates	*Advertising Forms Close*
January 3	December 31
January 5	January 2
January 6	January 3
January 7	January 5
January 8	January 6
January 9	January 7

Chicago Show Issues

Publication Dates	*Advertising Forms Close*
January 24	January 22
January 26	January 23
January 27	January 24
January 28	January 26
January 29	January 27
January 30	January 28

Automotive Daily News

H. A. TARANTOUS, *Bus. Mgr.*

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